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HOMEOPATHIC
PRINCIPLES AND PRACTICE
OF MEDICINE,

BY

✓
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TO MY
COLLEAGUES OF THE FACULTY,
AND TO THE
GRADUATES AND STUDENTS
OF THE HOMEOPATHIC MEDICAL DEPARTMENT OF THE STATE
UNIVERSITY OF IOWA,
THIS BOOK IS RESPECTFULLY DEDICATED.

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HOMEOPATHIC PRINCIPLES

AND

PRACTICE OF MEDICINE.

CHAPTER I.

HISTORY OF MEDICINE.

THE practice of medicine is as ancient as man's desire to escape the conditions of his mortality. When the arch enemy said of Job that though he might bear with resignation the loss of his goods and his family, yet if he were afflicted in his person he would curse God to his face, he but expressed the universal instinct of mankind. All that a man hath will he give for his life, is an apothegm of universal application. So our art is the oldest of all arts, inasmuch as sickness and death have been common to all ages, and the desire to escape them one of the strongest feelings in human nature.

I propose in this introductory chapter to give a brief sketch of the rise, progress and manifold changes of theory and practice in the profession of medicine.

It is natural to suppose that in the earliest ages of man he should seek for means: first, to alleviate suffering; and secondly, to prolong his existence to as great duration as possible.

These means, however rude and ineffective they may have been, constituted the rudiments of the art of medicine. But, however zealously we seek the origin of our art, we are soon lost in the wilds of conjecture, or in the regions of fable. It is possible that the primitive man, in the absence of knowledge, had an instinct similar to that of the higher order of the brute creation to guide him in the selection of simple remedies. I think we may safely conclude that the earliest races of men,

with no experience of the past to guide them, with limited intellects and few ideas, would have but small advantage over the animals around them. We have reason to believe that many animals when ill seek for, and eat certain herbs for their relief. Man may have had the same instinct, or he may have availed himself of the instinct of the others, by observing their habits, and so have appropriated their knowledge to his own use. Amid the most savage and ignorant tribes some knowledge, however acquired, of medicine and surgery has been discovered. The painful feelings of the sufferer from accident or disease, and the anxiety of those about him, must, even among the most ignorant, have incited a spirit of inquiry and trial to procure relief.

At first, the effort to relieve pain and to cure the sufferer must have been wholly experimental; but when one fact had been established it was, so far, a conquest over disease, and was a guide for the administration of the remedy in a similar case. So, too, the means of cure might have been discovered by accident, as has happened in numberless instances in the history of medicine.

The stimulating effects of coffee are said to have been first discovered by a shepherd of Arabia who observed that the leaves of a certain shrub, when eaten by his goats, produced in them an unwonted exhilaration. Struck by this circumstance he experimented with the leaves, and finally with the berry, and thus introduced to the world the beverage so highly prized.

It is also asserted that the virtues of Peruvian bark in ague were found out by an Indian, ill of a fever, drinking at a pool whose waters were strongly impregnated with the bark, whereby he was speedily cured. Thus, little by little, whether by observation, by accidental discovery, or by trial, knowledge of the remedial effects of herbs would be slowly accumulated, the mass of facts be gradually increased, the effects of medicines be better substantiated, and the skill and knowledge acquired by one generation be handed down to another. So, too, one more acute and observing than his fellows, with more power of generalization, and of deducing effects from causes, would attain to greater proficiency than his neighbors, and his knowledge and skill would be frequently called into requisition; and here we would find the first instance of one being set apart for special devotion to the healing art. At first the remedies were undoubtedly of a simple character; as the application of cold water to the body burning with fever, or

of emollient and soothing preparations to bruises, wounds and burns.

Following these would come the discovery of medicines, either by trial or accident, and what proved efficacious in one case would be tried in others of a similar character until, its value being finally determined, it would take its place in the limited pharmacopœia of the time. As years rolled on the list would be increased; new virtues would be discovered in the old, and flower, shrub and tree, would furnish new remedies to the research of man. But few as these must have been, I doubt much if the diseases of that age did not bear a direct ratio to them. Civilization is the parent of many ills of the body. The simple habits and primitive mode of life of our first ancestors would not be favorable to the development of the multitude of ailments which now afflict humanity.

But the savage mind is strangely prone to superstition and credulity. Ignorant of the cause of the pains and sickness which have laid hold of him, believing that what has caused him so much suffering must be an enemy that has fastened its fangs within him, he would regard that enemy as some supernatural being, malevolent in his purposes, who from resentment at some slight from his votary has inflicted this ill upon him. The belief, too, that human beings, by alliance with supernatural agencies, could attain to the power of conferring good and inflicting evil has, among all primitive savage tribes, extensively prevailed. It has appeared in every region of the globe; and it would seem that the human mind, in its credulity and proneness to superstition, is a soil well adapted to the growth of this belief. In truth, there is an unaccountable propensity in the uncultivated mind to indulge in the belief of what is supernatural, and this is more conspicuous in the case of medicine than in any other affair of common life, both because the nature of disease and the method of curing it are more obscure, and because disease awakens fear, and fear and ignorance are the natural parents of superstition. Thus the healing art and superstitious rites were strangely mingled, and not only were the suitable remedies to be administered, but the anger of offended deities was to be placated by incantations and offerings of sacrifice. If death ensued it was attributed to the malign influence of sorcery, or to the wrath of some invisible demon.

Even in the times of the earliest writers, we have frequent mention of the Divine wrath bringing pestilence and death

to men. Homer describes the god Apollo shooting his arrows into the Grecian camp armed with deadliest pestilence. So, fear of these visitations would lead men to propitiate the anger of the offended gods by rites and ceremonies, by sacrifices and oblations, and thus various superstitious acts would be blended with the administration of medicines, and the legitimate treatment of the sick would be inextricably mixed up with these absurdities. It may not be without interest, if we recount some of these peculiar customs which have come down to us through tradition and the writers of antiquity, and it is not too much to say that many of these beliefs, dating back to remote ages, have their followers even now in the light of the knowledge and civilization of the present.

In Egypt, a country of which we have the earliest records, and where, as is supposed by the learned, medicine was first cultivated as an art, a fair degree of knowledge of the nature of disease, the means of cure and of the physiology and anatomy of the human system, was mixed with much that was absurd and fanciful.

To the deity Isis a peculiar medical power was attributed, and a multitude of diseases were ascribed to the effect of her anger. The discovery of many simple and compound remedies were ascribed to her, and several of them bore her name for hundreds of years. A mixture of sixteen drugs, compounded in sets of fours, a quaternary which was considered sacred, was burned every evening in her honor.

The Egyptian physicians were compelled to adhere scrupulously to the rules laid down in their sacred books; viz., the same medicine for all complaints. Following this rule, if the patient died they were held blameless; but if they had violated the rule, and death ensued, they were held responsible for the loss of life. Their diagnosis was made from the peculiar position of the patient in bed; the various positions of the sick indicating the character and severity of the disease, a conclusion not wholly without warrant. Later in their history, according to Strabo, the sick were exposed on the street, and all passers by were expected to examine them and give an opinion as to the nature of their ailments and the proper treatment thereof. Herodotus in his history says, substantially, the same thing of the Babylonians.

But as all diseases were considered the effect of the anger of the gods, the intervention of the priests became necessary to placate their anger, and so by degrees the offices of priest and physician were combined. This brought the element of

the supernatural into the treatment of disease; the sick were to be cured by propitiating the anger of the gods, as well as by the administrations of medicines. Many of these superstitious observances have descended to our times, and a belief in their efficacy prevails among the credulous and ignorant. The shrines of Enrope are thickly hung with the offerings of pious votaries, in gratitude for the cures wrought by the intercession of the saints. It would be a curious question to ascertain how large a proportion of the alleged cures were genuine, and the influence which an undoubting faith has over certain forms of disease. We know that the credulous victims of African voodooism, or of witchcraft, frequently die from sheer terror when under the belief that the spells of the magician or witch are laid upon them; and it would seem that the same faith, so powerful to destroy, might be equally powerful for the restoration of health. At first those roots, and shrubs, and flowers which were used for medicines were only esteemed for their remedial virtues; but in time, from the superstitions of the people and the craft of the priesthood, they were endowed with supernatural and magical properties, depending for their virtues upon the time of gathering and the method of it.

There are, besides, a good many legends concerning these medicinal plants, and many curious fancies. The first plant that occurs to me in this connection is the mandrake, or May-apple, called also by the old Greeks the apple of love, from its being used in the rites of the goddess Venus. This plant is first mentioned in the book of Genesis, where Rachel begs them of her sister Leah, whose son had just gathered them, evidently attaching a good deal of importance to their possession. Its forked, flesh-colored roots, gave rise to the belief that it was endowed with sensations and consciousness, and was possessed by the soul of some demon. When pulled up it was believed to utter an unearthly shriek, and the one pulling it paid with the forfeit of his life for his temerity. Josephus, and also an old English writer, says that whoever wished to obtain the root, in which all the virtue of the plant lay, tied a dog to the plant, and then placing food before him, the animal, in his efforts to reach it, pulled up the root. The shriek followed, and the dog on hearing it fell dead, the man escaping by stopping his ears to the sound and fleeing. Its possession was considered a charm against all diseases, and also brought luck to the owner. It was occasionally carved into the likeness of the human form and kept as an amulet.

There is in the British Museum a natural specimen of this root which leaves one in no wonder that in a superstitious age it was endowed with diabolical attributes, for it bears a quaint and striking resemblance to two heavily bearded faces. A Latin writer describes the mandrake root as a man in blossom. Among more modern nations there are many legends concerning it. Shakspeare speaks of its power as an opiate, and the belief that its shriek kills or maddens those who hear it. In Bohemia it is gathered and given to cows in the belief that the cow which eats it will draw the milk from all other cows which come near. Its infusion is poured on domestic animals to prevent swelling and render the body proof against blows. Among the Alps it is laid on the bed to prevent nightmare, and is borne about to prevent cramps and toothache.

The St. John's-wort, or *Hypericum*, is another plant to which many virtues were ascribed. It was a protection against witchcraft, and the power of second sight. It was placed on walls on St. John's night, and its withering speedily or slowly foretold speedy death or long life. If a traveler put it in his shoes he would not weary on the longest journey. Its sap, when mixed with beer and other drinks, was esteemed of special potency as an antidote to many diseases. There is a climbing plant in India called soma, concerning which the natives believe that if one drink of its juice he will never die, and the plant itself is believed to live forever. This story is evidently a tradition of the narrative of the tree of life in the Garden of Eden.

There are legends among the Jewish Rabbis that somewhere in the East still exists the Garden of Eden, with its trees of life and knowledge, and that whosoever should find and eat of the fruit thereof would become immortal and ever young. The fruit of the tree of life, which tradition has assigned to be the apple, has caused the fruit to be linked with many legends and mysticisms. Aphrodite, the Venus of the Greeks, bears it in her hand as did Eve, and its possession by her brought death to many, as did its eating by Eve the fall of man. It is the healing fruit of Arabian tales. In Hindu mythology it is said the gods have apples which they eat when they feel old age approaching, and become young again. In Germany this fruit is considered potent against warts. In Pomerania it is eaten as a cure for fevers, and in Westphalia mixed with saffron for jaundice.

In Oldenburg, to cure toothache, they bore the tooth with a nail until it bleeds, then drive the nail into an oak, and

think to be free from the ache as long as the nail remains in the tree. There is an old German belief that the holes in oak trees are the gateways for fairies and elves, and that ailments of the hands and feet may be cured by contact with these holes. There is also a curious notion that a certain disease may be cured by passing the child three times through a tree split open for that purpose, and I knew, myself, the same thing to be tried upon a child in the State of Georgia, only in this last case the tree was a young ash instead of an oak. The cure is supposed to be effected as soon as the rent in the tree is healed. Rhenmatism was believed to be cured by rubbing the body with ash leaves, plucked before sunrise by one going backward to the tree. In Suabia wounds are thought to be healed by inserting a bit of ash in them, and then burying the twig where neither sun nor moon can shine on the spot. In the East ninety-nine leaves from ninety-nine willows, dried and taken in three doses, are believed to cure the fever and ague. Toothache is also cured by spitting five times on a yellow willow, and making five knots in a branch of it; the toothache ends when the branch withers. I should think it would sooner. In Thuringia it was esteemed a cure for gout to climb a young pine and tie a knot in its topmost branch; but it seems that the remedy must be worse than the disease. Films over the eye were to be cured by the same means. Black thorn, gathered at Easter, was thought to be a sovereign remedy for erysipelas.

Among the Brahmuns of India there were some strange theories concerning medicine and its relation to the different functions of the body. They attributed to worms all diseases of the skin, and every other they ascribed to three principal causes; namely, wind, vertigo, and change in the humors in the body. According to their theory, the body is composed of one hundred thousand parts, in which are seventeen thousand vessels, each of which has seven different canals, and in each of these ten different species of wind. Diseases arise from the irregular direction of these winds, and are cured by restoring them to their true direction. According to some of their doctors, there are four thousand four hundred and forty eight different kinds of diseases. They did not use many remedies; chief among which were caustics and sugar, the latter in the opinion of many the only homœopathic medicine. I am certain its administration did not produce any aggravations of the disease.

The Chinese, perhaps the oldest nation in the world, claim to have a system more than four thousand years old, and to which they still adhere. They admitted only two elements of the body, heat and moisture. According to their harmonious relations to each other depended the health or disease of the body. They claimed to be able to decide upon the nature and seat of disease by the state of the pulse. In affections of the heart they felt the pulse at the left wrist; of the liver, higher up on the arm; of the lungs, at the right wrist; of the stomach, on the right arm; and of the kidneys, between the thumb and palm. They believed in a panacea which caused those using it to become immortal, and fancied they had discovered it in the root of the ginseng. It is certain that this root is held in most extraordinary esteem among them, and large quantities are exported thither from this country. They think its consumption largely tends to promote health and lengthen life, and that it is an antidote to many diseases.

In ancient Britain the Druids, in their sacred groves, played the part of physicians as well as priests. They claimed that they derived their knowledge directly from the gods. Their wives acted the part of sorcerers, and aided in keeping up the fear and reverence of the people for their lords. Their principal medicines were the mistletoe, savin, and vervain, which were regarded as sacred plants.

In Europe, from the fourth to the fourteenth century, rival schools of medicine were continually arising, having their day, and then giving place to some new theory. As dissection was seldom or never practiced from superstitious notions concerning the dead, all their ideas concerning the structure and functions of the human body were fanciful in the extreme. One writer asserts that all fevers arise from derangement of the phlegm and the bile, and inflammation from the introduction of blood into a part which did not previously contain it. To get rid of this the patient must be kept closely shut in a warm room, and no cooling drink be administered. Millions of poor fevered wretches have been thus tortured through devotion to such a theory, and so pernicious and lasting was its influence that it is still within the memory of many when cold water was forbidden to the sick as though it were a poison.

Another school, that of the Astrologists, claimed to be guided by stars in the diagnosis of disease and in the selection of remedies, and so popular was the theory, that it maintained its ground for many centuries against argument and ridicule.

Probably the natural tendency of mankind to mystery had much to do towards keeping up this delusion. Besides, it flattered the self love of men to believe that the stars in their courses watched over them, and that their health and sickness, their prosperity and adversity, were so intimately blended with the motions and positions of these celestial bodies.

A practice which prevailed in the first centuries of the Christian Era deserves a passing mention; namely, the imposition of hands and anointing with oil by the elders of the church as a means of cure for the sick. It was sanctioned and even commanded by the Apostle James, was practiced for several centuries, but finally fell into disuse except when occasionally revived by some enthusiast or charlatan, who claims to have obtained this power.

In the Middle Ages medicine seems almost to have disappeared as a science; and procession and exorcisms, witchcraft, astrology and alchemy, to have usurped its place. Pestilence ravaged the cities, and processions with relics and amulets were relied on as antidotes and cures. Sanitary precautions were unknown, and after the great plague in London fire came as the only purifier to save the city from future attacks. Astrology was lifted up into a science, and the beneficent or malignant aspect of the stars foretold weal or woe to humanity. The so called science of alchemy flourished and took strong root at this period. Its disciples maintained that a combination of precious essences, rare herbs, and a proportionate amount of the king of metals, that is, gold, would result in the formation of a most potent and subtile elixir capable of renewing youth, and prolonging life indefinitely. Its manufacture was believed to be jealously resisted by demons, and by the spirits of fire, who were unwilling that their prerogative of immortality should be shared by mortals; and hence he who would discover the secret of making it must be thoroughly posted in the deep secrets and mysteries of astrology and magic, so as to control these spirits and prevent their interference. The science of chemistry took its rise in the persistent efforts of the alchemist in experimenting with every conceivable substance, not only to discover the coveted elixir, but also the philosopher's stone which was to transmute all base metals into gold.

By their ceaseless combinations and re-combinations they evolved many a secret of nature in their laboratories, and laid the foundations of that science which has opened so vast a field for the research of the modern chemist. They may be

said to have almost discovered the secret for which they sought—at least for their posterity. Many a life has been spent in seeking for an antidote to the destroyer Death. I can almost fancy the despair of one of the old alchemists to find old age creeping on him and the object of his passionate search still eluding his pursuit. Haunted by the vision of immortal youth while bending under the load of years, shrinking with more and more repugnance from the vision of impending dissolution as his hopes of achieving his object have been more vivid, the end comes—and the coveted immortality reaches him through the grim gates he had hoped never to enter. Paracelsus, a noted physician of the sixteenth century, claimed to have discovered this secret, but died at the age of forty-six with a vial of his boasted catholicon in his pocket. Lord Bacon, also, thought he had found in nitre the means of indefinitely prolonging existence, and for the last thirty years of his life he daily took a portion of this drug.

I do not know but what we in our day are almost as much given to credulity and superstition as our forefathers. We have our lucky and unlucky days; our belief in signs and omens; our faith in the positions of the stars, as shown in the weaving of infants; our reliance on charms. Even now children charm away those pests of childhood, warts, with many mysterious rites. We keep many relics of past beliefs alive in our breasts, and many people have a buckeye nut or potato in their pockets, with at most but a halting faith in their efficacy.

Among the curiosities of ancient medical literature are some stories concerning what I may call the medical knowledge of animals. I have before alluded to their instinct guiding them to the selection of what is best for them when ill or injured, and I mention some examples of it which I have found in my reading. I have spoken of the discovery of coffee through the agency of the goat. The same animal when sick is said by Pliny to purge himself with hellebore. Quails when sick swallow the seeds of the same plant, and starlings dose themselves with hemlock. The herb celandine takes its name from the supposed fact that the swallow administers the juice of the plant to her young. The stork physics himself with marjoram. Dogs when ill eat certain grasses. The ichneumon of Egypt, when bitten in its contests with serpents, seeks for a certain plant, eats thereof, and returns to the fight unharmed by the venom of its foe. Wood-pigeons, ravens, jays and partridges, cure themselves with laurel. Turtle-doves and pigeons prescribe bird weed for their ailments, while ducks and geese

prefer sage. Cranes and herons eat the marsh rushes, and thrushes the seeds of the ivy. Cats dose themselves with vervain, mint and valerian.

A curiosity in old medical literature is the strange, startling and sometimes revolting character of many of the prescriptions in use, and given by men eminent for skill and learning in their day. Some of these were as follows: The moss off a human skull for bleeding at the nose. Turtle's fins applied to the toes as a cure for gout. The ashes of bees for baldness. An ointment made from a toad baked alive, powdered and mixed with lard has been used as a local application for quinsy from time immemorial. Its use is mentioned by Pliny, Dioscorides, and many subsequent writers. A man told me a short time ago that he had used this preparation with marked benefit. Coral worn about the neck was used to keep off fits, and as an antidote to poisons. The lungs of a fox were given for asthma. The fat of vipers as a remedy for bites of venomous serpents. There was a famous electuary said to have been invented by Mithridates, king of Pontus, more than two thousand years ago, and which has been retained in use until within one hundred years. This prescription was compounded of seventy-two different articles, divided into thirteen classes antagonistic to each other, and was administered in all diseases in hope that some one of its numerous ingredients would cure the disease.

The works of the old writers on medicine, are full of such as these, and they assert their efficacy with a gravity which would be absurd were they not so much in earnest. I have thus far indulged in a very discursive and rambling view of the theories men have entertained of disease and its cure, of health, of life and of death. Many of these beliefs are obsolete. No one now believes in an *elixir vitæ*, or a fountain of youth, save what exists in a perfect state of health and perpetual serenity and peace of mind. No one has faith in miraculous interpositions or incantations and charms. Yet many of these old notions still exist in a modified form, and it would surprise us to know how much of the superstition of early ages still clings to us.

But the more definite order of the growth of medical science seems to be in this wise: *First*. The rude and simple appliances of savage life, adapted with more or less skill to the exigences of the occasion. *Secondly*. A gradually accumulating mass of facts, handed down from one generation to another during the patriarchal or tribal mode of life. Next,

the gradual union of the priest's and physician's offices, and from this the mingling of religious rites, ceremonies and exorcisms, with the more legitimate duties of the physician. Then here and there a bold innovator on established rules, bringing to light new theories of structure, function, laws of life, methods of preserving health and eradicating disease.

The rise of still new teachers upsetting the former theories, and substituting new ones of their own instead, with new and fresh truths continually breaking in upon the minds of men concerning their physical being. This process, I say, continued on from age to age constantly eliminating what is false and worthless, and constantly adding to the store of knowledge, gradually evolves out of the heterogeneous mass a true science of life and health.

There have been in the medical history of the world at different periods of time, men who have made their mark upon the age in which they lived, and who have strongly impressed their theories and beliefs upon their own and succeeding generations. Such men were Hippocrates, Aristotle, Galen, Paracelsus, and more modern names. A short sketch of some of the most eminent of these may not be amiss.

Æsculapius, one of the demigods of ancient mythology, is sometimes styled the father of medicine; but if he ever existed save in the fancy of the poets of Greece, but little is known of him except in tradition and romance. His pupil Machaon is spoken of by Homer as treating the wounded heroes in the Trojan war, and had a large reputation for skill both as a surgeon and physician. Subsequently temples were erected in Greece in honor of Æsculapius and his sister Hygeia, whither the sick repaired for treatment. The treatment consisted in a very strict regimen and offerings, little medicine being used. I conjecture that more reliance was placed in abstinence, serenity of temper and hope than in the use of drugs.

To any one who carefully reads the laws of Moses, it will be evident that he had well defined views of sanitary precautions, as well as the ability to treat the most formidable diseases which then afflicted mankind. To prevent the spread of disease he separated the patient from his fellows, and taught the priests how to treat it. In his command to the people to cover the excretions of the body with earth he anticipated what modern science has claimed as a discovery; namely, that dry earth is one of the best disinfectants.

Pythagoras, who flourished some 700 B. C., better known as

a philosopher, was also a physician, and as such his teachings strongly impressed the age in which he lived. He taught great purity of life, abstinence from venereal and vinous excess, and from animal food, encouraged all manly exercises and held that the practice of them would not only keep the body in health but eliminate disease. His disciples used mostly unguents and fomentations conjoined with a few internal remedies. I think in their methods of treatment they justly deserved the reputation they attained.

About one hundred years after the time of Pythagoras, there appeared a man who exerted upon his own and succeeding centuries a greater influence than almost any man who ever lived. He created a revolution in the healing art, and advanced ideas and theories which continued to be authority in the medical world for many hundreds of years. This man was Hippocrates, born 460 years before Christ. Descended from a line of physicians, he adopted the profession of his ancestors, bringing to it great powers of observation, large analytical powers of mind and great accuracy of reasoning. He laid aside as pernicious many of the practices of his predecessors, and strove to elevate his art to the dignity of a science. But his chief excellence seems to be in his description of disease, and he was the real inventor of the art of prognosis, or the determining the duration and termination of disease. He was ignorant of anatomy, and of the functions of the different organs of the body. He believed in critical days in illness, and that these crises manifested themselves in different ways; as sweating, purging, bleeding. He observed with great care the appearance of the sputa, urine, color of skin, coating of the tongue, and deduced from these, conclusions favorable or unfavorable to the patient as the case might be. He practiced blood letting in acute diseases, and on young and robust patients; but recognized its inefficacy in the old and feeble and in diseases characterized by asthenia. Hahnemann says he was the author of the maxim *contraria contrarius curantur*, by which he means that a remedy is not indicated where it produces symptoms similar to those manifested in the disease. He noticed that in nearly all diseases that nature made an effort at recovery, or that the tendency of disease is toward recovery; hence, another maxim that nature is the first of physicians; consequently he never interfered with what he called salutary efforts but on the contrary favored them.

I quote from the very able lecture delivered at the annual commencement at Iowa State University, in 1880, by Hon. Jas. F. Wilson: "Hippocrates came very near inscribing *similia similibus curantur* over the entrance to the Temple of Æsculapius. For a cure of mania he wrote, give the patient a draught made from the root of mandrake in a smaller dose than sufficient to induce mania. If on this principle he had founded his school he would have secured the fame which afterwards fell to the lot of another."

This is very nearly like the modern expectant theory which teaches that the physician should seldom interfere, but simply watch the course of the disease aiding by diet, air and rest, unless his interference is imperatively demanded. In addition to blood letting, he used cathartics, emetics, diaphoretics and expectorants. He drew most of his medicines from the vegetable kingdom, using only alum, salts of copper and lead from the mineral kingdom.

He was a good surgeon as well as good physician. He is said to have invented the art of bandaging, and he used and described instruments for reducing dislocations and fractures. He described club-feet and invented an apparatus for restoring them to their natural shape. He invented also an instrument resembling our trephine, and gave minute directions for its use. In short he worked a complete revolution in the medical and surgical art of his time. If the course pursued by him had been followed by his successors, Grecian medicine would have attained a degree of perfection far ahead of that which it did reach. Hippocrates was evidently in advance of his age. Following him the chief medical discoveries were made by the philosophers Aristotle and Protagoras, both Greeks. Aristotle first discovered the nerves, but denied their connection with the brain asserting their origin from the heart. This belief has been one common to all nations of antiquity, and the form of speech asserting it is still common among us. The emotions are described as arising from the heart. He also derived all the vessels from the heart; first gave its name to the artery and described it as filled with air. This erroneous opinion no doubt arose from the fact that he only saw the vessel after death when it was empty of blood. He dissected a great number of animals, and probably some human subjects for he instituted comparisons between them, and showed wherein they differed. He was the father of comparative anatomy. Protagoras first pointed out the difference between the arteries and veins.

Galen, the first worthy rival of Hippocrates, was born in Asia Minor, A. D. 132, or nearly 500 years after his great predecessor. His father, an eminent scholar of his time, gave him an excellent education. At the age of twenty-four he went to Alexandria, then the seat of learning, to study medicine and anatomy. After eight years' study he returned to his native place for a short time, and then went to Rome the capital of the world. Here his great ability and his success in practice brought him into great repute, and excited the jealousy of his rivals, a feeling from which the profession is scarcely free to this day. While Galen exerted a powerful influence upon the profession for many hundreds of years after his death, yet his teachings did not conform to the rules of common sense, as did those of Hippocrates. Galen's writings are largely commentaries upon the works of Hippocrates, adding his own views to those of his master. He made very few discoveries in anatomy and added very little to the *materia medica* of his time. His theories concerning fevers, and his treatment of them were pernicious and added largely to the sufferings of the sick. Nothing was given in the incipient stages. The patients were kept in close rooms with doors and windows closed, the room was kept hot with fires, and all food and drinks were of the most heating varieties—cold applications and drinks were forbidden. It is truly astonishing that such practices prevailed so long as they did, and even survive to the present day.

In 1315, the professor of anatomy at Bologna, Italy, began dissecting human subjects before his class, the first operation of this kind it is alleged in 1700 years; but after this human dissections were made at stated periods, but very rudely and imperfectly for long afterwards. In 1460, Montagna, professor at Padua, boasted of having opened fourteen subjects in the course of his life.

From the time of Aristotle to the middle of the fifteenth century, only vegetable medicines were administered, with the exception of those used by him at this latter period. Valentine prescribed antimony, sulphate of iron and sal ammoniac. In the middle of the sixteenth century flourished Paracelsus, noted for his introduction of mercury as a medicine. He claimed to be the equal of Hippocrates in genius and skill, and his superior in the preparation and introduction of new remedies. He claimed that chemical compounds were more efficacious than the simples hitherto used, and certainly he and his disciples were more than ordinarily successful in their treatment

of the sick. He traveled a good deal boasting largely of his attainments, and attacking the medical practice then in vogue. He was made professor of medicine and chemistry at Basle, but finally resigned his position and died, as I before remarked, in spite of the nostrum which he claimed possessed the power of prolonging life indefinitely. Towards the close of the sixteenth century many discoveries in surgery, anatomy, and physiology were made. The names of the discoverers have been perpetuated in various organs and parts of the body. Thus Vesalius, Eustachius, Fallopius, Taliacozzi, and others contributed largely to a more accurate knowledge of the structure and functions of the human body. For thousands of years the world of medicine had been ignorant of the mechanism of the circulation of the blood. There had been innumerable hypotheses gradually approaching nearer and nearer to the truth, but it was reserved for Harvey, in the seventeenth century, to solve the problem. His theory was fiercely attacked, and it was many years before the truth of the discovery was generally conceded.

During the eighteenth century many new theories were promulgated and sustained with a good deal of talent and ingenuity. Hoffman and Boerhaave in Germany, Cullen and Hunter in England, and Perrault in France, each elaborated subtle theories concerning the origin of disease, the actions of medicines, and the functions of the various organisms of the body. Boerhaave asserted that the vessels of the body were cones or cylinders. The fluids of various particles, adapted only to given apertures, were at times forcibly driven into vessels to which they were not fitted, and so numerous diseases were produced. Cullen adopted the doctrine of spasm and debility from which he deduced all the phenomena of disease. Rheumatism was a spasm of the muscles; but gout originated in the debility of the digestive organs. In this century many important discoveries were made in chemistry, physiology, anatomy and surgery. The close of this century was distinguished by great activity in all departments of natural science. The world was emancipating itself from the domination of superstition, and asserting the right to free thought and inquiry. The impetus then received has continued until the present time, and bids fair to continue as long as there are doubts to be solved or knowledge to be gained. The progress of medical science in our own country has kept pace with its advancement elsewhere. During the first years of its settlement there was little or no opportunity

for medical education. The clergy and the higher officers of the colonies with a few educated physicians attended to the sick. Midwifery was practised entirely by the women, and it was not until late in the eighteenth century that men were admitted to the lying-in chamber. In 1752, the first instructions were given in medicine, anatomy and surgery, at Newport, Rhode Island. In 1762, the foundations of a medical school were laid at Philadelphia, which afterwards developed into the Medical University of Pennsylvania, once the most celebrated school in America. A school was commenced in New York, in 1767, at Harvard, in 1782, and at Dartmouth, New Hampshire, in 1797. During the present century we need not be ashamed to compare our growth with that of Europe. In sanitary reform, in physiological and anatomical research, in microscopy, in chemistry and gynaecology our writers are the peers of the ablest the world over.

During the last fifty years the science of medicine and surgery has advanced with rapid strides. From the studies, researches and discoveries of the alchemists of the Middle Ages has arisen, at first by slow degrees, the science of chemistry which in this generation has done, and is still doing, so much to solve the problems of organic function and structure. It has aided largely in enlightening us as to the true nature of disease, and the best methods of preventing its approach.

In olden times many diseases were regarded as direct visitations of angry deities for offenses committed by mankind. It is no less true now that they come as punishment for violated law; but the offense is against the laws of our physical being rather than against the laws of morality. Chemistry teaches us the effect of organic poisons upon the human system, but at the same time teaches us the way to neutralize their effects and render them harmless.

There is no surer thing than that we may make the recurrence of epidemics of cholera, typhus and typhoid fevers, and small-pox impossible. Knowing through science the cause of these visitations, by science we are enabled to remove that cause. As men better understand the laws of nature and more perfectly obey them, as the growth of knowledge and the progress of invention have added means of comfort and healthful living, so in like proportion has the duration of life been increased. Two centuries ago in civilized communities it averaged thirty years, now it is forty-one. How low it must have been among savage nations we can only conjecture.

I don't know that physically we are superior, for then only

the stronger reached maturity, the weak perishing early in the struggle for existence; but we know better how to take care of ourselves. To gain this result of increased duration of life science has taught us to build our cities and towns with wide streets, with squares and parks interspersed, to keep these streets and spaces free from filth and garbage, to bring pure fresh water in abundance into them, to build houses with due regard to warmth, light and ventilation, to prevent a needy population from crowding into foul cellars and small ill-lighted rooms, to drain swamps and marshes, and to pay attention to cleanliness of person and clothing—in short that a persistent attention to what we call natural laws must be enforced or disease and death will follow.

An element in the progressive development in the science of medicine which I have hitherto not mentioned, and which is extraneous to the fear of pain and death, is the natural tendency of men to investigate the phenomena of nature, and to search into the hidden causes of effects. Almost all advance in knowledge depends upon this quality of men's minds, and with equal pace with his advance in other lines of investigation has been his progress in physiology, anatomy, botany, chemistry and kindred sciences which are connected with the art of medicine.

To men with this thorough devotion to research we owe the great discoveries in art. They seek for the truth with unflinching zeal, and each successive discovery makes them the more ardent in the pursuit. The true physician will have the same zeal in his work. He not only will bring all the powers of his art to the cure of maladies but also to their eradication, and will search through the realms of nature for weapons to overthrow what is hostile to the well-being of man.

Disease enters through a thousand avenues; he will seek to close these to its approach. And I apprehend that the time will come when the functions of the physician will be, rather to guard mankind from the assaults of disease than to heal the sick. In ancient Greek fable, far beyond the broad river which was believed to encircle the world, lay the country of the Hyperboreans, inhabited by a happy race living in perpetual bliss, and free from pain and sickness, existing to a goodly old age. When death came, it came as gently and sweetly as sleep to a tired child. I have fancied that the fable of the Hyperboreans may become a reality to mankind.

When we learn that violation of natural law is followed by its penalty of suffering, and obedience is rewarded by health

of body and mind and length of years, and when science shall point out to all the true way of living, then may we hope that obedience shall be the rule of conduct, and a life of exemption from sickness and suffering be followed by a peaceful death; life shall pass away as gently as the dying leaf from its branch when touched by the frosts of autumn; as serenely as twilight melts into the darkness of night.

In the unending progress of mankind to what is higher and better, may our mission be not to minister at the bedside of suffering humanity, but to be the conservators of health, the guides of our race to a vigorous enduring life, free from the physical ills which now rob existence of half its joy, and clothe its ending with so much of dread. When these things shall come,

“Then comes the statelier Eden back to men,
Then springs the crowning race of human kind.”

CHAPTER II.

PATHOLOGY.

PATHOLOGY, GENERAL AND SPECIAL—DIVISIONS OF GENERAL PATHOLOGY—DIAGNOSIS—PROGNOSIS—PROPHYLAXIS—MORBID CONDITIONS—TUBERCULOSIS—SCROFULA—EXUDATION—TRANSUDATION.

Medicine, in its broadest sense, is the art of curing diseases; but many things have to be learned and considered prior to the administration of remedies.

When called to the bedside of a patient, the physician will need to inquire into particulars, to observe with much care, and, particularly, to ascertain the previous condition and state of health, to note peculiarities of constitution and temperament, besides the special symptoms of the disease he is called upon to treat.

Pathology.—This study of disease is called pathology, and consists of two divisions, *general* and *special* pathology. *General* pathology treats of symptoms, or conditions common to many diseases, as inflammation, while *special* pathology treats of individual diseases, as intermittent fever, scarlatina, etc. General pathology, again, may have subdivisions; one relating to various morbid conditions which may exist, and the names of these, while sometimes indefinite, frequently are indicated by terminations; as inflammation by *itis*, morbid discharge in the urine by *uria*, changes in the blood by *æmia*, a transudation by *rhea*, a flow of blood by *rhagia*. The prefix *hydro* indicates a dropsical condition of the part, and *pneuma* an infiltration of air. Another subdivision is *pathological* or morbid anatomy, and consists in the study of changes of structure in the solids or fluids of the body. By means of chemical analysis, and of the microscope, most important discoveries concerning the causes and nature of disease have been made. Another subdivision is *diagnosis*. Diagnosis is the discrimination of diseases from each other; another is *symptomatology*, or the consideration of the morbid phenom-

ena attending disease. These two subdivisions demand most careful attention. Upon a careful study of the symptoms depends a correct diagnosis, and an accurate or inaccurate diagnosis largely affects the reputation of a physician.

Diagnosis.—Without a very careful attention to all the phenomena of disease, it is too easy to make mistakes, and even if no evil consequences befall the patient, the physician will certainly fall in the estimation of him and his friends.

The physician should never be hasty in his definition of disease even when the case seems a very simple one. Chills, fever and sweat, often occur as one of the symptoms of consumption, and a hasty judgment might mistake this as a case of intermittent fever. Erythema somewhat resembles scarlatina simplex, and a mistaken diagnosis would make a great deal of mischief from the alarm which would be engendered by calling the one by the name of the other. The totality of symptoms in all cases should be carefully weighed before a definite opinion is formed. A great many of our school doubt the value of careful and accurate diagnosis, because they prescribe from the totality of objective and subjective symptoms; these, rather than the disease, are indications to them of the remedy to be prescribed. I think this is an error, for two reasons: *First*, a positive diagnosis helps the reputation of the physician and relieves the patient and friends, and also, I think, aids materially in the treatment. As an illustration of my meaning, we will suppose that he is consulted in a case of general dropsy. We find an accumulation of water in the abdomen, in the scrotum, possibly in the thorax or pericardium, or in the cellular tissue of the legs. He diagnoses *anasarca*, and prescribes accordingly, or he finds certain symptoms and prescribes for them. Now is this alone accurate diagnosis or prescription? I think not. When we come to speak of dropsy as a disease, I shall try to show the value of thorough and systematic investigation before making a diagnosis. I do not mean to say, however, that having settled upon the nature of the disease, we are prepared to treat it upon this basis alone.

There are hardly two cases of the same disease exactly alike, or which call for precisely the same treatment. There are many grave as well as slight variations of more or less importance in determining upon the right remedy. In our therapeutics we acknowledge no allegiance to the nomenclature of disease, nor ought we to have a regular routine of prescriptions for *enteritis*, *pneumonitis*, or *gonorrhea*. In the

latter case the discharges may vary in color or consistence, the pain may be more or less acute, the *dysuria* more or less severe; it may be complicated with other morbid conditions. While it is important that we know determinately that we have gonorrhea to contend with, yet it is of no less importance that the most prominent symptoms should suggest the line of treatment to be pursued.

I would mention in leaving this subject a method of diagnosis called diagnosis by exclusion, or differential diagnosis. That is, there are certain symptoms common to two or more diseases, and the point is to exclude from the list those diseases which have often well marked peculiarities not common to the case under consideration. There are some symptoms common to *variola* or small-pox, and *varicella* or chicken-pox. It is highly important that the diagnosis should be accurate, and especially that the former should not be mistaken for the latter. How shall we tell?

In severe cases of varicella, and mild cases of variola, the vesicles are somewhat alike. In variola the vesicles are preceded by papulæ; in varicella the vesicles appear first. In variola the eruption appears first on the face; in varicella, generally on the body. In variola there is the general central depression; in varicella it is rare. In variola the vesicles appear in the mouth; in varicella, rarely. Of the liability to error in the diagnosis of small-pox, I quote from statistics of Blackwell's Island small-pox hospital. Of 1,494 patients admitted, 48 proved not to have small-pox.

Prognosis.—Another subdivision is *prognosis*, or the probability of the termination of disease. This is also an important point, and the good or bad judgment of the physician here greatly affects his reputation. In this, as in diagnosis, it is best to be deliberate, to carefully weigh the gravity of the symptoms; the previous mental and physical condition of the patient; the severity of the prevailing epidemic, if such shall be the nature of the disease.

In view of the importance attached by the patient and friends to the opinion of the physician on this point, a degree of caution and reticence is advisable. But often the exigencies of the case demand a positive statement of the probable termination of the attack. Men desire to settle their worldly affairs, to make wills, to see absent relatives and friends, to seek the consolation of religion, and to make up old feuds. So it will readily be perceived that a mistake, especially when the prognosis is favorable and the result proves otherwise,

will seriously lower the estimate which people have formed of his judgment and skill. But, as I said before, the prognosis needs to be a guarded one, unless the symptoms are such as to point unmistakably to a fatal termination. A disease of equal severity may destroy some, and others may recover from their greater vitality and resistance to disease.

Some of the symptoms which will justify an unfavorable prognosis are as follows: great increase of the animal heat, as shown by the thermometer placed in the axilla or under the tongue, a heat of over 107 being an unfavorable prognostic; livid color of lips and nose, great emaciation and pallor; great rapidity, irregularity and feebleness of the pulse (except in heart disease); great prostration, paralysis of the sphincter muscles of the anus. The hippocratic countenance which portends speedy dissolution is characterized by lividity, pinching of the nostrils, sinking of the eyes, dropping of the lower jaw, coldness of the ears, nose and of the extremities.

Prophylaxis.—Another division of pathology relates to the prevention of disease, and is called prophylaxis. Until recently no very efficacious or certain means of warding off disease were known, nor until within a few years was the cause of the propagation and spread of contagious diseases at all understood.

In ancient times epidemics were regarded as special dispensations of providence, and by the pious were thought to be punishments of an angry deity upon an offending people. It is true they were in one sense punishments, but the offense was against the laws of cleanliness and purity, rather than against morality.

Jenner's discovery of vaccination for protection against small-pox, and the use of belladonna as a prophylactic in scarlatina, were, until a comparatively recent date, the only well authenticated antidotes to disease. As I have remarked, in all ages the populace have made use of charms and amulets as a protection against contagion, and through the force of imagination I doubt not but what to a certain extent they were beneficial; for, in a believer in them, they would induce tranquility of mind, and allay apprehension. Modern scientific investigation has, in the germ theory of disease, given the most rational solution of the origin and spread of disease, and has led to the employment of measures for its control. We have been taught by what modes of transmission these germs are communicated, what sanitary measures are

to be taken for their isolation and destruction, and what remedies are most potent in neutralizing their activity. It has been possible not only to make small-pox a thing of the past, but to almost entirely arrest the ravages of typhus, cholera, yellow fever, and other cognate diseases.

Some writer once described a model country, as to sanitary regulations, in which a paternal government, by judicious but despotic sanitary rules, made the whole population always healthy, and none died, save by accident or old age. This would be carrying the science of prophylaxis to perfection. It is the physician's duty to point out to his patrons the importance of preventing sickness by attention to sanitary precautions. Many sin through ignorance, and are not aware that an open cess-pool, a privy too near a well, and foul cellars are a most frequent cause of disease. Physicians too frequently neglect calling attention to these things.

It is undoubtedly true that many lives are sacrificed from the causes just now enumerated. A physician may make less money, and fewer professional visits, by preaching from the text "prevention is better than cure," but he will have the consciousness of duty performed.

Morbid conditions.—You will remember that general pathology treats of morbid conditions common to a number of diseases, as inflammation. Now there are certain morbid conditions, characterized by certain changes in tissue as to size, consistence and composition. These may be detected by the naked eye, or by the touch, or may require the use of the microscope for their identification. In histological study the microscope has opened a wide field for investigation and has largely increased our knowledge of function and structure. *First*, as to size: A morbid increase is styled *hypertrophy*, and diminution of bulk *atrophy*. The one implies an excess of supply, and a corresponding excess of absorption and assimilation. Hypertrophy is, properly speaking, an enlargement without change of structure, and if there be enlargement by the deposition of extraneous matter, it is not, strictly speaking, hypertrophy. The cause of hypertrophy is, generally, an increased activity of the part. The heart, from some obstruction in the current of the blood, is compelled to an increase of work to overcome the obstruction, and this increase of work necessitates an increase of nutrition and absorption. The result is an increase of size, precisely as a muscle is increased in size by a continuous exercise of it. Hypertrophy of one kidney will result if the

other is lost either by disease or removal. So, if there is obstruction to the passage of the urine, the walls of the bladder will be thickened in consequence of the increased difficulty in voiding the urine.

In atrophy there is a diminution in bulk. The supply of nutritive material is less than the demand, hence, the waste in the part is not made good, and decrease in size is the result, unless some morbid deposit makes good the loss of the proper substance of the part. The case is exemplified in what is called fatty degeneration, when oil cells take the place of the wasted tissue, or even increase the volume of the organ, thus giving false hypertrophy, and real atrophy. The causes of atrophy are various: one is disease of the part atrophied, as when a limb is disabled by paralysis or rheumatism; another is from an impeded circulation or from an occluded artery, or from pressure of a tumor upon an artery; another is from pressure of a tumor upon the surrounding tissues, causing their general absorption. The general emaciation of marasmus and pulmonary phthisis are examples of atrophy affecting the whole muscular and cellular tissues.

Morbid alteration of consistence is of two kinds; namely, increased consistence or hardening, and diminished consistence or softening. A part is indurated when its weight and density are abnormally increased. We have examples of it in *pleuritis* with effusion, where the lung is crowded into smaller space by the pressure of the effused liquid. The lung is condensed into a substance resembling flesh, and it is very much diminished in bulk. If absorption of the effused fluid takes place, the condensed lung may regain its former size and color.

Softening occurs more frequently than induration, and, in most cases, is incidental to some change of structure, or is due to some morbid process, as gangrene. It occurs in muscular tissue as a consequence of fatty degeneration, the heart being liable to this form of disorganization. It occurs in the brain, either in consequence of a clot exercising pressure upon the surrounding structure, or from a deficient supply of blood, impairing the nutrition of the organ. It occurs in the lung in the second and third stages of pneumonia. In the second stage, for the hepatized lung has less firmness and cohesiveness than the sound portion, breaking down easily under the finger; and still less in the stage of purulent infiltration, when it breaks down very readily. It occurs in *gastritis* when the mucous coat of the stomach softens and breaks

down; also in the mucous coats of intestines, as in dysentery. It occurs from undue pressure upon a limb from improper bandaging, or from a ligature, resulting in gangrene and death of the part. Softening of the spleen sometimes occurs in typhus and typhoid fevers.

The third class of lesions are those of composition. These may be classed under various heads, as tubercle, cancer, exudations, transudations, fatty degeneration, calcareous degeneration, morbid growth and parasites.

Tuberculosis.—The diseases which are the result of the formation of *tubercle* are of great importance from their frequent occurrence, and from the fatality attending them. To these diseases are applied the term tuberculosis; thus, we have tuberculosis of the lungs, called consumption or *phthisis*; tuberculosis of the spleen, liver and of the meninges of the brain. There are two kinds of morbid products characterized by the term tubercle—the gray and the yellow. Authors are divided in opinion as to whether they are modified forms of the same morbid product, or distinct and separate in their character. The former, or gray tubercle, consisting of small roundish bodies, rather hard, about the size of a hemp seed, sometimes very much smaller, are found in the lungs, mesentery, liver, spleen, meninges of the brain, and other parts. They are often found in the lungs in large numbers, and prove fatal to life from their obstruction to the function of respiration. Their presence in this form gives rise to the disease called acute *phthisis*. Their presence in the arachnoid membrane occasions the tubercular meningitis of children. They are never found in the muscles, cartilages, tendons, skin, or mammary gland.

The other form is developed in the lungs, in the air cells, and they aggregate in masses from the size of a filbert to an orange, occupying one or more lobules of the lungs. They consist of albumen, fat, and phosphate and carbonate of lime. Unless removed by absorption, their tendency is to break down and to be converted into a creamy mass resembling pus. Sometimes, however, absorption takes place, the animal matter leaving behind the earthy substance, resembling chalky concretions. I have in my collection certain of these concretions expectorated by a consumptive patient. Their presence in this state are indications of absorption going on. It is contended that all true tubercular disease is the consequence of the development of the gray tubercle, and that the presence of the second variety, or yellow tubercle, in the lungs indicates chronic pneumonia.

There is so much difference of opinion on this point among writers that I shall leave my readers to decide the point for themselves when they come to the investigation of the matter, contenting myself with affirming that the practitioner will find either condition a very difficult and obstinate affection to treat and cure.

Exudation.—A result of certain forms of inflammation, constituting an important complication of various diseases, is an exudation of the plasma, or lymph, or fibrin of the blood. It was, and still is called coagulable lymph, though some writers call it simply exudation. It is also called inflammatory exudation. It is supposed that it cannot exist without inflammation, and its presence in certain structures is proof that inflammation has been present in them. It is present chiefly in serous membranes, especially in the *pleura*, *pericardium* and *peritoneum*. Examined soon after exudation, it has the appearance of a semi-transparent gelatinous substance of some solid consistence. Afterward it becomes more dense, adhering to the serous membranes in layers and having a fibrous appearance.

The coagulation of the fibrin leaves a serous fluid which is found in greater or less quantities in the serous cavities. After a time this serous liquid may become absorbed, but the coagulable lymph is absorbed slowly if at all. It may form membranous bands, or adhesions between the opposite surfaces of serous membranes. In unfavorable cases the liquid portion degenerates into pus. As the result of exudation we have adhesions forming in the pleural sac in *pleuritis*, in the abdomen in *peritonitis*, and the inflammatory action set up by the presence of tumors in ovarian cysts. These adhesions, nearly always present in greater or less abundance, add materially to the danger of an operation for their extirpation.

Occasionally fibrinous exudation occurs on mucous surfaces, and appears in the form of a false membrane, and constitutes the characteristic feature of inflammation of the larynx in true croup, and of the pharynx and fauces in *diphtheritis*. Rarely we see this diphtheritic exudation upon the skin. This form of exudation does not become organized, as in *pleuritis*; but in process of time becomes detached by a suppurative process beneath it, and is thrown off. The term plastic lymph is applied to that form which is capable of becoming organized. There is also exudation into *parenchymatous* structures; this does not become organized, but, in recovery, is rapidly absorbed and carried away.

In other cases, the presence of fibrinous exudations may last for an indefinite period, and, finally, result in false hypertrophy and induration, or it may sooner or later lead to supuration.

So it will be observed, that lymph, or fibrinous exudation, has different characteristics, according to its seat, and different consequences. In one case it becomes organized structure, and in another it does not. It is absorbed, and it also degenerates or is transformed into pus. In nearly all cases, authors differ in their views: some regard it as an extraneous product, incapable of being transformed either into organized tissue or pus; others claim that it is capable of transformation.

Scrofula.—Frequently in our practice we are asked to decide whether a patient is scrofulous, or whether a certain malady is scrofula or of scrofulous origin. There is in the public mind a vague and indeterminate sense of the term scrofula, and even in our own minds we have no very clear and well-defined understanding of the term. In a restricted sense, it denotes an affection of the lymphatic glands of the neck, occurring principally in children, characterized by a morbid product resembling tubercle. There is more or less enlargement of the affected glands; they are rather soft, and remain apparently unchanged for a considerable time. Absorption sometimes takes place, when the swellings slowly disappear; at other times, softening takes place without any evident inflammatory action; ulceration of the skin ensues and the contents of the tumor are discharged. Finally, the discharge ceases and the ulcers heal over, leaving an irregular, puckered scar. This characteristic appearance of a scrofulous cicatrix must be familiar to all. According to the views of some writers, the scrofulous enlargement of the lymphatic glands is due to a morbid increase of the elements which these bodies contain in health, the process being a morbid growth, finally resulting in inflammation.

The absorption of this morbid product is supposed by some to be the cause of tuberculosis; but many children afflicted with scrofula remain free from tubercular diseases. There are certain signs which are believed to indicate a scrofulous constitution; such as enlargement of the head, swelling of the abdomen, a tumid upper lip, and softness of the muscular structure. Other diseases are supposed to be the result or consequence of the constitutional taint; as eczema, lupus, chronic catarrh, white swellings, bronchitis and chronic intes-

tinal catarrh; but this is doubtful. It is certain that many children who have been affected with scrofula remain free thereafter from the complaints above mentioned, and in those who have them, the coincidence may be purely accidental.

Transudation.—Another form of lesion of composition is transudation, or an accumulation of a fluid outside of the vessels. It differs from exudation, that whereas in exudation the poured out fluid becomes solid and organized, in transudation it remains liquid. It differs, moreover, in this, that in exudation the product is liquor *sanguinis* or coagulable lymph; in transudation, only the serum of the blood escapes. Still another difference is that exudation of coagulable lymph is generally the result of inflammatory processes, while transudation may occur without inflammation. The fluid escapes or percolates through the walls of the vessels, just as water might do through porous pipes. The vessels in a state of health are dense enough to prevent the escape of the fluid; but in diseases which either result in a morbid attenuation of the blood or an increased amount of pressure upon the blood vessels, they yield a passage to the serous portion of the blood, and it escapes into the cavities of the bodies or into the cellular tissues.

The effused fluid is a watery serum; it undergoes no transformations, and is incapable of organization. In exudation, the disease is in the membrane from which the effusions proceed; while in transudation, the morbid process is elsewhere, and the seat of the transudation may be free from disease. We have the contrast between inflammatory and dropsical affections in *pleuritis* and *hydrothorax*, in true *peritonitis* and *ascites*, in true *hydrocephalus* and *meningitis*. In transudations the effused fluid is usually clear, and of a pale amber or straw color. It is sometimes reddish from the presence of blood corpuscles, and yellow from the presence of bile.

Transudations are named from the situations in which they are found. In the cellular structure it is called *œdema*, as œdema of the lungs, glottis, eyelids, face, etc.; when general under the skin it is called *anasarca*; when it occurs in the serous cavities the prefix *hydro* is used, as hydrothorax, hydrocele, hydrocephalous, etc. *Ascites* is a term to designate effusion into the peritoneal cavity.

Dropsy is not a disease *per se*, but a symptom of some morbid condition elsewhere. It is generally due to some affection which causes an obstruction in the circulation of the

blood, or some disease which makes the blood more watery. This obstruction may be in the heart, liver, lungs or kidneys.

We may class dropsy as either local or general. In the latter case, there is subcutaneous *œdema* or *anasarca*, combined with effusion in one or more of the serous cavities. This condition is a grave one, and implies disease of one of the great organs of the body. If it arises from obstruction, the disease is usually in the heart; if from morbid change in the quality of the blood, the disease is usually in the kidneys. Local dropsy is generally an effusion into one of the serous cavities. When in the cavity of the abdomen, it is due to hepatic disease. Local *œdema* is due to congestion, and is of little importance, save when occurring in pharyngitis or sore throat.

CHAPTER III.

GENERAL PATHOLOGY.

STRUCTURAL CHANGES—FATTY AND CALCAREOUS DEGENERATIONS—
TUMORS—PARASITES—CHANGES IN THE BLOOD—MIASMS.

Structural changes.—We shall now consider a lesion of composition involving structural change. So far, this has not been the case, primarily, with any of the lesions of compositions we have described. There have been infiltrations of structure, but when these infiltrations have been absorbed the structures have remained intact. Certain of the morbid processes have led to a destruction of tissue, as in *tuberculosis*; but it has been due to pressure and consequent inflammation. But the lesions now under consideration are characterized by the substitution of morbid products for the normal substance of the affected parts. These lesions are commonly named degenerations; and the substitution of fat for the normal structure is called fatty degeneration. We must make the distinction between fatty degeneration and accumulations of fat. Fat may overload muscles; it may accumulate between them, and even between the muscular fibres; it may accumulate around the heart and liver, and under the integument, and in the abdominal cavity, so as to seriously impair the health and constitute disease; but this is not fatty degeneration. It may be called hypertrophy of fat tissue. In fatty degeneration, the fat takes the place of the muscular tissue; this disappears and is replaced by the fat globules. Fatty degenerations occur most frequently in persons of advanced years, and less frequently in middle life. It occurs in voluntary muscles as a result of long continued disease. When paralysis of motion has continued for a long time, this change is apt to occur in the muscles of the affected part.

Fatty degeneration of the coats of the arteries, especially of the cerebral, not seldom occurs in old people. The walls

of the arteries being weakened by the loss of their substance, are unable to resist the pressure of the blood, give way, and apoplexy or paralysis results from the effusion of blood upon the brain.

So in the larger arteries near the heart; the walls are weakened in the same way, and either an aneurism is formed or the walls completely give way, causing sudden death. I have no doubt that very many of the cases of sudden death occur from this cause.

In middle-aged and old people, a pale, opaque ring is often noticed around, or seemingly around, the iris of the eye. This is the *arcus senilis*, or the ring of old age, and is a visible illustration of fatty degeneration. Some authors consider it a diagnostic sign of fatty degeneration elsewhere. It is not always accompanied by other lesions, however, as clinical observation shows.

Calcareous deposits.—Another form of degeneration is the calcareous, a change due to the infiltration of earthy salts, chiefly the phosphate of magnesia and the carbonate of lime. These deposits occur in old age about the valves of the heart, in the arteries of the extremities and the brain. Their deposit in the arteries of the extremities give rise to that form of gangrene of the feet known as *gangrena senilis*, by obstructing the supply of blood, and thus cutting off the nutrition of the parts. Calcareous degeneration in the arteries of the brain makes them brittle and liable to rupture, thus inducing apoplexy; or by impeding nutrition causes softening of the brain. It also occurs in the lungs from absorption of tuberculous deposits, the calcareous deposits taking their place.

Waxy degeneration is so called from its peculiar wax-like appearance; its composition is not known. It is found oftenest in the kidneys, liver and spleen. It is usually found in subjects who have long been afflicted with *syphilitic* diseases of bone, and *tuberculosis*.

Tumors.—Morbid growth, or tumors, is another lesion of composition. There are various theories of their growth. The most rational one is that which divides the body in fundamental and accessory elements, and attributes to these last the formation of their growth. The fundamental elements are those which are endowed with known functions; namely, the osseous, nervous, and glandular structures.

The accessory elements are certain superadded constituents. Among these are corpuscular bodies, and it is the multipli-

cation of these to which is due the formation of morbid growths. Their consideration belongs to surgical pathology, as they are rarely amenable to medicinal action. The new nomenclature defines them according to their locality, adding *oma* as a suffix: *fibroma*, fibrous tumors; *neuroma*, for nervous; *osteoma*, bony tumors, etc.

Emphysema.—Again we find accumulations of air in the coatings of the body and in the areolar tissue, or in the stomach and intestines. According to its situation, it is called *emphysema*, *flatulence*, or *pneumo-thorax*. It occurs in the intestines and stomach, in consequence of chemical changes in their contents generating gases. General emphysema of the whole body is sometimes caused by a wound of the lungs; the movements of respiration forcing the air through the areolar tissue. A fractured rib penetrating the lung is a frequent cause of this condition. Sometimes emphysema is caused by suppuration.

Parasites.—The last division of this class includes animal and vegetable parasites. With the former the physician has seldom to do, except with certain well-known varieties of intestinal worms, and vegetable growths affecting the skin and mucous surfaces. The names of some of these latter may be familiar to all, although everyone may not be aware of their vegetable origin. Dandruff, thrush and diphtheria are examples of these vegetable parasites; so is scald-head and milk-crust. These vegetable formations belong to the family of cryptogamous plants, which are propagated by spores. Animal parasites are numerous, and affect nearly every part of the body. They are found in the skin, in the muscles, in the intestines and stomach, in the areolar tissue, in the crystalline lens, in the bladder. Several varieties of lice colonize the skin; the West Indian chigoe, and the scabies or itch-louse, burrow into it. The Guinea-worm burrows into the tissue under the skin; the trichinæ swarms through all the muscles, and numerous tribes of worms find a home in the intestinal canal. We are a numerously inhabited body, and are a prey to all sorts of organisms.

After treating of the changes occurring in the solids of the body, we shall next proceed to the morbid changes occurring in the fluids. These are, first the blood, and next the fluids of secretion, excretion and exhalation.

The fluids.—Of all the fluids of the body, the blood is the most important. The Bible says that the blood is the life, and it expresses a great truth in a few words. Upon its nor-

mal quantity and quality depend the healthful workings of the vital functions; to arrest its course temporarily is to cause a suspension of consciousness; to arrest its current to any part of the body is to destroy that part by depriving it of nutriment, or in other words, by starving it to death. The suspension of its circulation for a few minutes causes death.

Being essential to the life and well-being of every organ, it follows that morbid alterations in its character should cause corresponding deteriorations in the organs and tissues of the body, and this observation shows to be true.

Probably a large proportion of diseases of the solid structure of the body are due to prior morbid changes in the blood. The blood contains all the elements which go to the formation and repair of all the organs and tissues of the body. If morbid changes in the blood cause a change in any of the constituents of the blood, the organ or part supplied by these must suffer in consequence; and it is rational to suppose that disease of the part must follow in consequence.

Again: the blood is the reservoir into which the waste products of the body are poured. If from changes in its composition it fails to restore or eliminate these, evil consequences must ensue. The blood is also the theater of constant changes. It is giving out of its fullness to every part, and receiving from the lacteals new supplies, and from the lymphatics the products of decomposition. It is constantly changing and yet constantly renewing itself. Portions are appropriated, portions are secreted for various purposes; other portions are excreted. There are continual interchanges of gases through the pulmonary tissue. All is ceaseless activity and continual change.

The blood is a complex fluid consisting of red and white globules and liquor sanguinis. These are resolvable into numerous elements, which may be divided into three classes; namely, the corpuscular, or the red globules; the organic, or the fibrin, and the mineral or iron and chloride of sodium. Of the first, or corpuscular, there are several morbid conditions; the first of which is an increase or diminution of the red globules. A large increase in the number of the red globules is called *plethora*, and a diminution *anæmia*. *Plethora* may arise either from a constitutional tendency, from over-feeding or rich food, from lack of exercise, or from the suppression of some habitual discharge. It manifests itself by redness of the face and mucous membranes, by a full, strong pulse and an active, energetic conduct. It is supposed

the red globules possess the power of stimulating to activity. The dangers from plethora are congestion of the brain and a liability to inflammatory diseases.

The remedies are: a more temperate diet to reduce the quantity of red globules produced, and active exercise to help consume those already produced. Many years ago blood-letting was very commonly resorted to in all cases of inflammatory disease, and even in others. Physicians of late have exercised more discrimination, and only use the lancet in true plethora and diseases resulting from it. Of course I except our own school from the imputation of using this method of relief.

Anæmia, strictly speaking, denotes a deficiency in the quantity of the blood in the vessels, and not a deficiency in the number of the red globules, but is used in the opposite sense to plethora. It occurs much more frequently than plethora, and induces and is associated with a great number of morbid phenomena.

The symptoms which indicate anæmia are the opposite to those of plethora. There is pallor of the face, coolness of the surface, a decreased power of resisting the effects of cold, a loss of muscular and nervous energy, the action of the heart is feeble, and a general lassitude and loss of will and determination. The complaints more generally associated with anæmia are *hypochondriasis*, neuralgia, indigestion and spinal irritability. What was formerly called *chlorosis*, a disease peculiar to girls approaching puberty, is a well marked case of anæmia.

The causes of this morbid condition are not always easily determined. Frequent hemorrhages, a direct loss of red globules, long continued lactation, insufficient food and derangement of the assimilative functions, are causes. The appetite in the latter case craves indigestible food, as chalk, slate pencils, coal, etc. I was lately consulted by a young married woman, suffering from anæmia, who had an uncontrollable appetite for coal; she compared her desire for it to the desire of the drunkard for alcohol. The disease was the cause of the morbid appetite, and its indulgence was seriously impairing the digestive organs.

The curability of the disease depends upon its complication, or non-complication, with other diseases. When alone it is generally curable; but when it is associated with other complaints, it is to be treated as adjunct to them.

Embolism—thrombosis.—Certain changes in the quantity of fibrin in the blood may be noticed. It is increased in

inflammatory diseases, and decreased in continued fevers, and its decrease bears a direct ratio to the exhaustion and prostration accompanying them. Whether these changes have anything to do with the diagnosis or treatment of disease I do not know. But a morbid condition of the fibrin of great practical importance is its coagulation in the veins and arteries, forming clots. The names of *embolism* and *thrombosis* have been given to these formations according to their situation and character.

Thrombosis is a clot, situated in a vein or artery, but which is stationary; an *embolus* is a clot which has moved from the place of its original formation and been carried onward in the current of the vessel until arrested in its course. A thrombosis becomes an embolus when it becomes migratory. Thrombosis occurs in the cavity of the heart, in the veins or arteries. In the heart it is caused by over-distention of its cavities, or by an excess of fibrin; in the arteries or veins, by obstruction to the current of the blood, or is a consequence of fatty degeneration. A clot formed in the right ventricle may cause sudden death by being carried into the pulmonary artery and causing complete occlusion; formed in the left ventricle, they are carried into the general circulation, and the mischief they do is dependent upon the place where their course is arrested. In the cavities they may do little harm, for the collateral circulation is so free as to compensate for the obstruction. An obstruction beyond the Circle of Willis may give rise to softening, paralysis, or apoplexy, for beyond this there are very few, if any, anastomosing arterial branches, and the nutrition of the parts is cut off.

Albumen.—The increase or decrease of albumen in the blood is a morbid condition to which our attention is called. It is increased in inflammatory diseases, as rheumatism, pneumonia, etc., but whether it has any pathological significance is not yet determined; but its decrease constitutes one important condition to disease. In Bright's Disease, albumen is present in excess in the urine, and its escape from the blood permits the serum to escape through the walls of the vessels into the adjacent tissues, giving rise to dropsy.

Sugar is also a constituent of the healthy blood; but only in certain portions of the circulation, and its presence in undue quantities, and in the entire circulation or mass of the blood, indicates disease. In health it is found in the portal and hepatic veins, in the *vena cava* and the pulmonary arteries, disappearing after passing the pulmonary circulation. It

is more abundant in the hepatic vein than in the portal, and it is ascertained that one office of the liver is to produce sugar from the starch portion of the food. In a state of health, sugar is not excreted from the body; but in a state of disease it is found in the urine and perspiration. Its presence in the urine constitutes the disease called diabetes. Its presence in the urine indicates that either the liver is making too much sugar, or what is made is not destroyed in its passage through the lungs.

Uric acid.—Other morbid conditions of the blood are the accumulation in it of substances which are formed in it, and excreted by the various organs. The most important of these are *urea* and *uric acid*. It was formerly believed that these substances were formed in the kidneys, but it is now well established that they are constituents of the healthy blood, and are eliminated by the kidneys. Should the kidneys fail in their duty, they accumulate in the blood, and their presence there in excess produce symptoms of very grave importance. This condition is called *uræmia* or *toxæmia*—the latter term meaning blood poisoning. It has this name because the urea acts upon the nervous system in a manner similar to certain poisons; various inflammations result from its presence, and in the gravest cases convulsions and coma ensue.

Experiments have been tried of removing the kidneys of animals. Vomiting and purging ensue, and in the dejections are found urea; but these being insufficient to eliminate the urea from the blood, death by convulsions and coma ensued, the same as in diseases of the kidneys in which the excretion of urea is prevented.

Jaundice.—The retention of bile in the blood is also followed by serious results, the most common one being *icterus*, or jaundice.

The remaining changes in the blood to be considered are those which are due to the absorption of morbid products, and are of two kinds: Those that may be formed in the bodies of the persons affected, and those derived from the bodies of other persons. The one illustrated by the absorption of pus—the other by the absorption of foreign matter in dissection wounds.

Pyæmia occurs as a secondary symptom in wounds and amputation, and in certain diseases, especially in the one known as puerperal fever.

In the case of wounds or amputations, after the lapse of

several days the wound becomes tender and painful, followed by chills and increased temperature of the body. At length abscesses form in various parts of the body, unaccompanied by the signs of acute inflammation which usually precede such formations. The disease runs a rapid course and is almost always fatal. Post-mortem examination shows multiple abscesses in the lungs, liver and spleen. They occur oftenest in the lungs, and vary in size from a hemp seed to a filbert. Authorities differ as to the contagiousness of *pyæmia*. It is pretty well established that in large military hospitals when it once gets a foothold, it is exceedingly liable to spread.

Septicæmia is putrid infection of the blood as *pyæmia* is purulent infection of the blood. It occurs from dissection wounds in gangrene, and in retention of the placenta, or portions of it after child-birth. It is affirmed that it is caused by the presence of organisms called *bacteria*, in the blood. Hence the great importance which is now attached by surgeons in preventing the entrance of these organisms into suppurating wounds. There are various morbid products derived from other bodies, and certain matters other than morbid which, introduced into the circulation, give rise to morbid conditions.

Poisons.—These are miasms, viruses, venoms and poisons. As an illustration of each of these we may give marsh miasm, whose absorption gives rise to malarial fever; the virus of small-pox, of typhus fever and of syphilis; the venom of insects, and of serpents, and poisons of the vegetable and mineral kingdoms. The most important of these, as regards the welfare and health of man, are the miasms and the viruses. The first by their abundance may render whole districts uninhabitable, and the second in times past, and even at the present, are the cause of frightful destruction of human life. To the latter, or to the diseases to which they give rise, the terms contagious and infectious are given. Their number is very great, and each one possesses the power of communicating the same disease from one to another; or in other words, each contagious or infectious disease has its own special and peculiar morbid product.

The virus of small-pox only produces small-pox, and no other disease. The terms contagious and infectious are usually regarded as synonymous. A distinction made is that *infection* means an appreciable morbid product, as in syphilis, and *contagion*, an inappreciable miasm as in whoop-

ing-cough. Of the nature of the morbid principles which constitute the viruses we know very little. Some authors regard them in the light of a ferment, and the diseases they induce are called zymotic, a term denoting a ferment. Lately the germ theory of disease has many advocates. It may be briefly stated as follows: The germs act in one case as in alcoholic fermentations; the power of inducing the same process being communicated through successive generations. In the other the action may be compared to the action of diastase, which put in starch converts it into glucose, but the glucose cannot act again in the same manner.

CHAPTER IV.

HOMEOPATHY.

ORIGIN AND THEORY OF HOMEOPATHY—HAHNEMANN'S VIEWS.

IN 1790, Hahnemann, a physician and chemist of eminence claimed to have discovered a new theory of medical action. While translating a work on *materia medica*, he was struck with the fact that *cinchona*, a remedy extensively used as a cure for intermittents, at times induced a disease similar to the one it was intended to cure. Being at the time in robust health, he commenced taking the drug and speedily was attacked with all the symptoms of intermittent fever, and this constituted the first proving of a drug. He had previously been disgusted with the mass of contradictory theories of the schools of medicine, and had resolved to abandon his profession; but now he was inspired with a new idea; namely, that he had discovered the true theory of the action of remedial agents. He reasoned thus: "If *cinchona* will cause intermittent fever in a healthy person, and will also cure the same disease when induced by other causes, and if other drugs will act in like manner, that is, cure in the sick morbid symptoms similar to those they produce in the healthy, then it follows that medicines only have the power of curing diseases similar to those they produce in the healthy body, and, per contra, only manifest such morbid action as they are capable of curing in disease." The next ten years of his life were spent in elucidating this theory, and in supporting and fortifying it with facts. He examined a vast number of books for facts in support of his discovery. He experimented upon himself and friends interested with him in ascertaining the correctness of his views, with medicines and poisons, and recorded minutely the symptoms induced in each. He administered these medicines thus tested to his patients and performed many extraordinary cures.

The *Organon*, published in 1810, gives the results of his investigations and elaborates the law of cure expressed by the formula "*similia similibus curantur*." The author examines the theories and hypotheses of the great lights of medicine from the time of Hippocrates to his own, shows their inconsistencies, incongruities and absurdities, their failure to establish any rational law of cure, and the wide differences of opinion which existed among them concerning the action of medicines upon morbid conditions. Then follow citations from authors of all ages to establish the fact that maladies have been cured by medicines in accordance with the law which he had discovered.

He says, "if we except those cases where ordinary physicians have discovered (not by their own research, but by vulgar empiricism) the specific remedy for a disease which always retained its identity, and by whose aid they could consequently cure it in a direct manner, such, for example, as mercury in the chancreous venereal disease, arnica in a malady resulting from contusions, cinchona in intermittent fevers arising from marsh miasms, sulphur in a recent development of itch, etc., I say if we except all these cases we shall find that those which they have cured promptly and permanently by the bounty of Providence alone are, to the most of their other irrational cures, in the proportion of one to a thousand. Sometimes they were conducted by mere chance to a homeopathic mode of treatment, yet they did not perceive the law of nature by which cures of this kind are and ever must be performed. It is, therefore, highly important to the welfare of the human race that we should examine how these cures, which are as remarkable for their rare occurrence as they are surprising in their effects, are performed. The examples prove that these cures have never taken place but by homeopathic means, that is to say by the faculty of exciting a morbid state similar to the disease that was to be cured. They have been performed in a prompt and permanent manner by medicines upon which those who prescribed them, contrary to all the then existing systems of therapeutics, have fallen, as it were, by chance, without well knowing what they were doing, or why they acted in this manner."

He draws this conclusion from these investigations: "Observation, reflection and experience have unfolded to me that, in opposition to the old allopathic method, the best and true method of cure is founded on the principle, *similia simili-*

bus curantur. To cure in a mild, prompt, safe and durable manner it is necessary to choose in each case a medicine that will excite an affection similar to that against which it is employed."

Hahnemann gives the names of several eminent writers on medicine who practically were convinced that *similia similibus* was the law of cure. He quotes in proof of this the works of Hippocrates, Thoury, Stoerk and Stohl. The explanation of the law of homeopathy as given by Hahnemann is substantially as follows: That every drug is capable of affecting the human organism, producing a train of symptoms which may be called a medicinal disease; that these effects are more potent than natural disease, but at the same time much more limited in the duration of their action; that the administration of a drug to a person, the symptoms of whose disease are similar to the symptoms produced by the drug, in a healthy organism, sets up the medicinal disease, substitutes its own action for that of the natural disease, and takes the place of it. The natural disease being thus extinguished, or in other words cured, the medicinal disease being self-limited soon subsides, leaving the patient well.

In the *Organon* he says: "The curative powers of medicine are grounded upon the power they possess of creating symptoms similar to those of the disease itself, but which are of a more intense nature. It therefore follows that disease cannot be cured or destroyed in a certain, radical and permanent manner but by the aid of a medicine which is capable of exciting the entire group of symptoms which bear the closest resemblance to those of the disease, but which possesses a still greater degree of energy."

He does not claim it to be a scientific certainty that medicines eradicate disease according to the hypothesis which he advances; namely, the medicinal disease takes the place of the natural one and suppresses it by its greater energy of action, but that his views of the subject appear to be the most reasonable. He gives his views in the 29th section. "Every disease being a purely dynamic and peculiar change of the vital powers in regard to the manner in which they accomplish sensation and action, a change which expresses itself by symptoms which are perceptible to the senses, it therefore follows that the homeopathic medicinal agent selected by a skillful physician will convert it into another medicinal disease which is analogous but rather more intense. By this means the natural morbid power which had previously ex-

isted, and which was nothing more than a dynamic power without substance, terminates, while the medicinal disease which usurps its place being of such a nature as to be easily subdued by the vital power, is likewise extinguished in its turn leaving in its primitive state of integrity and health the essence or substance which animates and preserves the body."

Hahnemann gives a brief analysis of the homeopathic method of curing disease, which I quote: "1. There is nothing for the physician to cure in disease but the sufferings of the patient, and the changes in his state of health which are perceptible to the senses, that is to say the totality or mass of symptoms by which the disease points out the remedy it stands in need of. 2. That state of the organism which we call disease, cannot be converted into health but by the aid of another affection of the organism excited by means of medicines. The experiments made upon healthy individuals are the best and purest means that could be adopted to discover their virtue. 3. According to every known fact it is impossible to cure a natural disease by the aid of medicines which have the faculty of producing a dissimilar artificial state or symptom in healthy persons. Therefore, the allopathic method never effects a real cure. 4. Every fact serves to prove that a medicine capable of exciting in healthy persons a morbid symptom opposite to the disease that is to be cured, never effects any other than momentary relief in disease of long standing, without curing it, and suffers it to appear after a certain interval, more aggravated than at first.

"The antipathic and purely palliative method, is, therefore, wholly opposed to the object that is to be attained where the disease is an important one, and of long standing."

Progress of homeopathy.—From the time of Hahnemann to our own, the progress of homeopathy has been steadily onward. In spite of opposition from other schools of medicine, in spite of legal enactment to repress its practice, it has been steadily growing in favor with the people, and has been gaining not only toleration but support from rulers and legislative bodies. It ranks among its adherents crowned heads, nobility and talent. It has its best and firmest supporters among the most intelligent and influential classes of our own and foreign countries. Our diplomas are recognized as valid in all the States. We have been given the charge of State institutions; our hospitals are found in all our large cities, and we have departments in two of the universities endowed and supported by their respective States; namely, in

the State universities of Michigan and Iowa. Our claims were allowed in Iowa, gracefully and promptly, both by the legislature and the board of regents. In Michigan the victory was gained only after a long and hard fought contest. To Iowa belongs the credit of cheerfully acknowledging our claims and readily conceding them, when once they had been fairly presented and urged as our just due.

CHAPTER V.

PRACTICE.

HAHNEMANN'S RULES FOR PHYSICIANS—ETIOLOGY—EPIDEMICS AND ENDEMICS—EXAMINATION OF THE SICK—SUBJECTIVE AND OBJECTIVE SYMPTOMS—METHODS OF DIAGNOSIS—ACTION OF REMEDIES—PRESCRIBING—DOSE—PROGRESS OF HOMEOPATHY.

Rules for physicians.—Hahnemann lays down three rules for the guidance of the practitioner, and they are so good, and so well adapted to the end in view, that I give them in brief, as follows:

1. To ascertain the malady.
2. To discover the morbid action of medicines.
3. To ascertain the best mode of applying them.

These rules cover everything. The first rule embraces the study of etiology, or the cause of disease, and symptomatology, or a study of the symptoms of disease, the classification of diseases, and the correct diagnosis of the particular malady to be treated.

First as to the causation of disease. Hahnemann divides diseases into two classes, acute and chronic, but his views on their origin or cause, while ahead of the views then entertained by the medical world, are largely modified by modern investigations through the agency of chemical analysis and the use of the microscope. He also held that many acute and nearly all chronic diseases had their causation in a certain miasm which he called *psora*. He declares that this psora is the fundamental cause which produces the whole countless forms of chronic disease, and many varieties of acute. The progress of this miasm through the organisms of millions of individuals in the course of many generations, and the extraordinary degree of development which it has acquired, explained to his mind why it was able to make its appearance under so many different forms, classed by pathologists as so many different diseases. I do not know but

what the psora theory of Hahnemann may be the cause of many diseases as he asserts. We certainly know very little of the real source of disease. We know that the virus of syphilis and the miasms of typhus reproduce these diseases, and, to a certain extent, we know *how* they do it, yet the origin of the virus and miasms is unknown to us.

Many of the later writers on homeopathy do not accept Hahnemann's theory that psora is the predisposing cause of such a multitude of maladies. We must remember that since his time many discoveries have been made.

Etiology.—The germ theory of disease which is so widely accepted at the present time, and which offers the most rational solution of the origin and propagation of many diseases, has set aside many of the old-time speculations relative to the causation of disease. From the time of Hippocrates down to our day medical writers have busied themselves with hypotheses and theories. One age has overturned the theories of the preceding age, and yet, on the whole, each theory was approaching nearer and nearer to the truth. We may never know the "*ultima ratio*," but still the work of investigation will go on as long as there are facts to investigate and fresh truths to discover.

Knowledge of the causes of disease is highly important, inasmuch as this knowledge may enable us to prevent sickness. This knowledge is also valuable in the management of disease, for if the cause is still operative we shall be less able to effect a cure. We have spoken of some of the causes of disease, particularly of those which are external to the body. There are others of this class, as cold, exposure, etc. Other diseases originate from acts of our own; as excesses in eating and drinking, over exertion, either mental or physical, and long continued excitement or depression, are fruitful sources of disease.

Causes of disease may be further defined as primary and secondary, ordinary and special, predisposing and exciting. A primary disease is one originating from some primary cause; as small-pox from its specific virus: a secondary disease is due to the effect of a pre-existing disease. Tuberculosis, occurring in the course of diabetes, is an example of a secondary disease.

A predisposing cause is one that produces a tendency to certain forms of disease. An exciting cause is one that starts the disease into activity. The predisposing cause determines the nature of the malady; the exciting cause deter-

mines the time for its development. Thus, a person under the influence of this predisposition may be liable to dysentery; an exposure to wet and cold is the exciting cause which brings on the attack. There is no doubt but that many persons with a predisposition to certain diseases may escape, provided they adopt wise precautions against them. An individual may be predisposed to consumption, and yet live to a good age by care and temperate living, or hasten its development by unfavorable surroundings and imprudent habits of life.

We see how important this matter is in dealing with that class of patients who have a predisposition to disease, either hereditary or acquired. Many do wrong through ignorance of the proper course to pursue, and some through willful neglect of the proper precautions. An early recognition of this tendency to disease, a knowledge of the time or of the exciting causes most likely to develop it, and a thorough acquaintance with the best means to avert the danger, are necessary to success.

A constitutional predisposition to any particular disease is called a *diathesis*. Thus, a tendency to scrofula is called a scrofulous diathesis, and to tuberculosis a tubercular diathesis; but after the disease has become developed it is styled a *dyscrasia*.

Epidemics and endemics.—Diseases may be endemic, epidemic or sporadic. Endemic diseases are those confined to a comparatively small extent of territory, and the causes which operate to produce them are supposed to emanate from the soil. That is, they are produced by miasms. Epidemic diseases, on the contrary, prevail over a large extent of territory and are migratory in their character, traveling in fixed directions. We had a marked illustration of this in the influenza which affected horses some eight years ago, and which spread across the continent from the east to the west. Epidemics have their cause in the atmosphere, or rather in certain germs or organisms either animal or vegetable which are in the air, and are carried along with it. So far as we know these germs or organisms each produce a disease peculiar to itself and no other, and in the case of many of them, having once produced the disease they are incapable thereafter of exciting the same morbid action. This is true of small-pox, scarlet fever and kindred affections. I quote in conclusion of this part of my subject from Flint:

“The observations which have shown the great abundance,

and the wide diffusion in the atmosphere of organic entities invisible to the naked eye; the researches which seem to show that putrefactive and fermentative processes are effected by the agency of living organisms; the analogy long recognized between the phenomena of fermentation, and those arising from certain of the unknown special causes of disease; the difference between the action of the unknown causes and of the known vegetable and mineral poisons; the discovery by means of the microscope within late years of cryptogenic formations in affections of the skin and mucous membranes, and also of parasitic animals; the detection of living organisms in the blood and other liquids of the body; the successful employment with a view to the prevention of disease, of carbolic acid and other articles which are especially destructive to the lower forms of animal and vegetable life, and the apparent remedial power of some of these articles in certain of the so called zymotic diseases—these are grounds for the conjecture, if not expectation, that continued investigation may lead to results which will greatly enlarge the boundaries of our present knowledge, not only in etiology but in pathology and therapeutics.”

Examination of the sick.—Having said thus much concerning the causation of disease which seemed necessary before discussing further Hahnemann’s rule first; namely, to ascertain the nature of the malady, I proceed to speak of the method he recommends and which embodies so much sound sense, save for its exceeding minuteness and prolixity, that I recommend it to your careful consideration. He recommends that the patient detail his own case without interruption, for this breaks in upon the continuity of his narrative, and he will find it difficult to resume it at the point where he left it. This gives the physician the picture of the disease as the patient views it, and he will be likely to mention first those symptoms which seem to him the most important, and which cause him the most uneasiness and pain. Then when he has finished his story and his friends have added what they wish to say, it is the duty of the physician to make what physical examination he thinks necessary and ask minutely concerning all the symptoms of the case as to pain, sleep, appetite, dejections, heat or cold, etc., avoiding as far as possible leading questions, for these lead the patient to imagine that the physician attaches an importance to his answering the question in the affirmative. For instance, he should be asked *where* he has pain, but not, if he *has* pain in the head. Hahne-

mann recommends or rather insists that the physician write down all the symptoms in order. If the case is an obscure or complicated one, or one of chronic disease requiring a long time for its treatment, I think it well to do so, but not in ordinary acute forms of disease. The physician should accustom himself to carry in his mind a picture of the disease and train his memory to retain it. When through with the day's work, every physician should jot down in his note-book a record of his cases and their treatment, both to improve his memory and accuracy of observation, and for future reference. Hahnemann's practice was almost exclusively in chronic affections, and to that I think may be attributed his insistence of the necessity of taking full notes of each case. Having thus examined the case, first by hearing the patient and his friends, then by physical examination and by questions so put as to elicit information withheld or not deemed important by the patient, and having, if you suspect anything concealed from delicacy or shame, tried by skillfully directed questions to ascertain the truth, you are ready to judge from the mass of symptoms what remedies most nearly correspond to them; that is, the symptoms, and how often and in what quantity to give them.

Subjective and objective symptoms—methods of diagnosis.—So far in the diagnosis of disease, in the collocation of symptoms, and in the general directions for examining the patient, I have somewhat closely adhered to the example and precepts of Hahnemann, but I think he relied too much upon purely subjective symptoms, and failed to avail himself of other aids to diagnosis than question and answer could give. There are many aids to correct diagnosis and prognosis which modern science has discovered. Hahnemann, as I have remarked, dealt chiefly with subjective symptoms or the sensations of his patients. The physician is liable to be deceived in these for various reasons. Some patients exaggerate their pains and feelings of discomfort; some suppress any exhibition of pain; some are insensible or delirious; some are fearful and timid; some deceive to attract sympathy; some feign sickness from selfish motives; others fancy they are sick. Every physician has patients of the latter class. Hysterical patients frequently excite grave apprehensions in those who are ignorant of their real complaint. The aids which the physician has independently of the sensations of his patient, are the objective symptoms which the physician can observe for himself, and in which it is his own fault if he is deceived.

Some of these are auscultation and percussion, examination of the pulse and dejections, analysis of the urine, the use of the thermometer, the ophthalmoscope, the laryngoscope, and the sphygmograph. Perhaps the most important of these means of diagnosis and prognosis is the thermometer. This instrument is of recent employment in disease, but it has proved to be of great value in determining certain morbid conditions. The normal temperature of the human body is about ninety-eight degrees, the range of heat in the healthy body ranging only one degree, more or less. When it varies from this standard to any extent, it indicates disease. One value of this test is its absolute certainty, for neither the sensations of the individual nor the touch of the physician can be relied on. The body of the patient may feel either too hot or too cold, and yet the absolute temperature vary but little from the normal standard; the fault is in the physician. His hand is too cold, and, therefore, the flesh of his patient seems too warm, or his hand may be too warm, and the sensation is of too great coolness. So the patient may complain of coldness and yet the temperature of his body be above the normal standard and the reverse may be the case. The thermometer may be placed in the axilla or under the tongue to ascertain the temperature, and must remain some minutes to ensure accuracy. By far the most frequent change from the normal standard is an increase of temperature. The animal heat is seldom less than 97 degrees. In cholera it generally falls in the collapsed stage. Its sudden fall during the progress of disease without other favorable symptoms is ominous of mischief. The highest temperature reached is 110 degrees; the higher the range the more unfavorable will be the prognosis. In mild cases the temperature seldom rises above 102 or 103 degrees; 105 degrees indicates severity of attack; 107 degrees, danger, and if it goes above that, very few if any recover except in intermittent fever, a high temperature in this disease not being necessarily dangerous. A relapse, or a complication with some other disease is denoted by a rise in temperature, and the extent of the danger is pretty accurately indicated by the amount of the increase. A decrease of the temperature accompanied by other favorable symptoms, indicates subsidence of the disease. A persistent rise of the temperature when other symptoms are favorable, indicates complication with some other disease, or relapse. This instrument has a certain value in diagnosis, because in fevers and other acute diseases the temperature of the body is

always raised; therefore, if the thermometer does not indicate a heat above the normal standard, we may be certain that the patient is not affected with a febrile disease. Sometimes the thermometer is a valuable means of detecting incipient disease by indicating a rise in temperature prior to its development, but it is in prognosis that it has its chief value. Its regular and systematic use will warn the physician of approaching danger or cheer him with the tidings of speedy convalescence. It tells him when to predict a mild, severe, or dangerous illness, and when the prognosis is a doubtful or hopeless one.

The ophthalmoscope was invented by Helmholtz in 1851. This instrument is designed to view the interior of the eye and has become a valuable means not only of diagnosing diseases of the eye, but also of determining the nature of certain morbid processes going on in the brain. Certain appearances of the retina such as hyperæmia and anæmia indicate corresponding conditions in the brain and spinal cord. Another appearance in the eye detected by the ophthalmoscope denotes renal disease.

The sphygmograph was invented by a French physician, for obtaining more accurate and reliable information concerning the pulse than could be obtained by the finger of the physician. It is an instrument requiring great delicacy and nicety of manipulation, and except in the hands of one well skilled in its use, is not available to any extent.

The office of the laryngoscope is described by its name. It is to obtain a view of the epiglottis, vocal chords and of the interior of the larynx. It is valuable as a means of diagnosis in affections of these structures.

Auscultation and percussion are older and better known means of determining the character of certain diseases. In affections of the heart and lungs particularly they are valuable aids to the physician. The sounds given out by the heart and lungs in health, differ in many respects from those we hear in diseases of these organs, and by the character of these last, we are able to determine pretty accurately the nature of the morbid process going on in the part affected. It is very desirable that every student of medicine should early accustom himself to the normal sounds of the thorax, and compare them at every opportunity with abnormal sounds. Percussion distinguishes between accumulations of water and air in the cavities of the body, especially in the abdominal cavity, and a very little practice will enable one to discrim-

inate between these two sounds, and also between normal and abnormal resonance. The student of medicine needs to educate his eyes, his ears, and his fingers, and bring them all to the task of diagnosis and prognosis.

Action of remedies—prescribing.—We come now to the consideration of the second and third rules of Hahnemann; namely, to discover the morbid action of remedies and their application in disease. This subject belongs properly to *materia medica*, yet on one or two points I will say a few words. Hahnemann contended that it is impossible to ascertain the action of medicine unless it is given alone, and not mixed with other drugs. It was the habit of the physicians of his time to prescribe compounds, frequently of a great variety of substances and of most diverse action. This practice he strongly opposed as absurd; for how can the physician ascertain the value of any one remedy, when he habitually uses it in combination with others? He compares such conduct in a physician to that of a madman, who forcing his way into the work-shop of an artist, seizes blindly upon all the tools within his reach for the purpose of finishing a work which he finds in a state of preparation. The only effect will be to injure and destroy the work. Therefore, in treating disease he insists that the physician shall administer but a single remedy at once, selecting that remedy carefully according to the totality of the symptoms. If after waiting a reasonable time the remedy fails to cure or relieve them, select another with the same care.

I have no doubt but that the advice of Hahnemann to confine ourselves to a single remedy at a time is correct, and should be followed when possible. It insures accuracy of prescription, and tolerably positive knowledge of the effect of the medicine, a knowledge which it is impossible to gain when two or more remedies are used in alternation.

Habitual alternation of medicines is rather a slipshod method of prescribing, and is done to save the labor of careful individualization. The constant practice of this form of prescription is fatal to accuracy, to correct knowledge of the powers of remedies, and their applicability to disease. Every physician will sometimes alternate his remedies, but ought not to do it often, and, above all, not to fall into the habit of doing it.

Homeopathy is often defined, even by intelligent men, as the art of giving nothing; that is, that our practice of giving medicines highly attenuated constitutes all the dif-

ference between our school and the other schools of medicine. Should we give a grain or two of quinine, or a few drops of the tincture of gelsemium at a dose, we are accused of forsaking homeopathic principles, and using the weapons of our opponents. The size of the dose has nothing to do with our law of cure. Hahnemann, when first prescribing in accordance with the law of *similia*, used drugs in their simple unattenuated state. The difference between himself and his brother practitioners consisted, first, in using the single remedy, and, secondly, in using the remedy in accordance with the law he claimed to have discovered. The attenuation of medicines was an afterthought of his. Finding at times that aggravation of the symptoms followed the administration of his usual doses he was led to diminish them. That *quantity* or *attenuation* of medicine is best which most promptly and effectually cures the disease, and this knowledge can only be gained by experience. No two individuals are alike in their susceptibility to the action of medicines. One is extremely sensitive to the action of one drug, another to the action of other drugs. I have a patient who cannot take the sixth potency of belladonna without being unpleasantly affected. I, myself, am extremely sensitive to the action of aconite. I have a lady friend who becomes very faint from the aroma of a rose. Every physician meets with these idiosyncrasies in his practice. Therefore, I say that it is good homeopathic practice to administer a dose of the mother tincture if it cures your patient more promptly than the attenuations, and it is the best treatment to give the attenuations if you can effect a cure more speedily and effectually by them. Hahnemann recommended giving the lower attenuations first, and, failing with them, to give the higher.

Dose.—The frequency of the dose is a question demanding consideration. A safe rule is to be guided by the rapid or slow progress of the disease. In cholera, cholera infantum and pernicious fevers, diseases which make rapid progress and prove speedily fatal unless promptly relieved, medicines should be administered at very short intervals until improvement begins. In maladies of longer duration and which do not depress the vital powers so quickly, longer intervals may intervene between the doses, while in chronic complaints a dose of the properly selected remedy should be allowed to act without repetition so long as the disease is progressing favorably towards a cure. In a case of disease of the scalp which

had lasted four years and which had baffled the efforts of two physicians, I effected a permanent cure with a single dose each of arsenic and sulphur, there being an interval of three weeks between the giving of the two doses. I am confident that in many cases we give our remedies too frequently, partly on account of our own impatience and partly to allay the anxiety of the patient and his friends. A safe rule is not to give medicine in often repeated doses when the patient is doing well, but to give just often enough to keep up a proper remedial action. Just force enough is an axiom in medicine as well as in mechanics.

Hahnemann sums up in regard to attenuation and repetition of medicine as follows: "It may be readily conceived that no theoretical conjecture will furnish an answer to this problem, and that it is not by such means we can establish with respect to each individual medicine the quantity or attenuation of the dose that suffices to produce the homeopathic effect and accomplish a prompt and gentle cure." No reasonings, however ingenious, will avail in this instance. It is by pure experiments only and precise observations that this object can be obtained.

CHAPTER VI.

SPECIAL PATHOLOGY.

CLASSIFICATION OF DISEASE—DIFFERENT ASPECTS OF DISEASE TO BE CONSIDERED—CHARACTERS OF DISEASE.

Classification.—We come now to the consideration of special pathology, which treats of individual diseases. In the classification of diseases nosologists have arranged them into groups, but there has been no uniform system of arrangement. In fact medical writers have grouped diseases each one to suit his own ideas and convenience, and no two methods are exactly alike.

Trousseau says: "There is not a physician who even after a short practical experience would not execute summary justice on all nosologies and nomenclatures."

Watson, in his *Practice of Physic*, says: "I shall consider convenience and usefulness in framing my plan of classification rather than an appearance of scientific precision, and if I make one principle of arrangement more prominent than another, it will be that which relates to the anatomy of regions, the place and situation of organs. Neither shall I divide the subject as some have done, into diseases of the circulating system, diseases of the respiratory system, diseases of the nervous system, etc."

I, however, as the most convenient, shall adopt the classification objected to by Watson, and shall divide diseases into groups, as follows:

1. Diseases of the respiratory system.
2. Diseases of the digestive system.
3. Diseases of the circulatory system.
4. Diseases of the nervous system.
5. Diseases of the skin.
6. Diseases of the genito-urinary system.
7. General diseases; as fevers, exanthemata, etc.

Different aspects of disease.—The different aspects under which I shall consider each individual disease are, 1. The anatomical characters, or the changes which take place in the structure of the part affected. This only pertains to those diseases which are characterized by alterations of structure, and not to those which are classed as functional diseases. 2. The symptoms, precursory and otherwise, which precede and accompany the disease, the order of their succession, and the laws regulating its development. 3. The causation. 4. Diagnosis or discrimination. 5. Prognosis or termination, and which also will embrace what are called the sequelæ, or certain morbid conditions which may arise in the future as a consequence of the acute attack. 6. Will consider the prevention and treatment of disease. This division not only relates to the administration of medicines, but to hygienic precautions; as diet, nursing, and to prophylaxis.

Characters of disease.—Diseases differ widely in their character. Some continue for a definite period rarely exceeding certain limits. The eruptive fevers as small-pox and scarlatina are examples of this kind. Diseases of this kind are styled self-limited. Some run on indefinitely, having no fixed period of duration; intermittent fever is of this type. Others are distinguished as acute, subacute and chronic. An acute disease is one that runs a rapid course, and is of a more intense character than the subacute or chronic. The subacute is of less intensity but of greater duration. When protracted to an unusual length it becomes chronic.

The same disease may be acute, subacute or chronic. Pneumonia and rheumatism may take any one of these forms. Some diseases never become chronic, as typhus or typhoid fever. Lastly, diseases may be divided into those which affect special organs or functions, those which affect more or less the whole system, and those which may be called constitutional diseases.

SECTION FIRST.

DISEASES OF THE RESPIRATORY SYSTEM.

CHAPTER I.

PLEURITIS.

ANATOMICAL CHARACTER OF—SYMPTOMS—CAUSATION—DIAGNOSIS—
PROGNOSIS—TREATMENT.

ACUTE PLEURITIS.

(*Synonym*, PLEURISY.)

I WILL consider first those diseases of the respiratory system which are the result of inflammation, of which the most important are those involving the membrane lining the pleural sac, the parenchyma of the lungs and the mucous membrane of the bronchia. The later nosologists distinguish all purely inflammatory diseases by the suffix *itis*, meaning inflammation; and it is well to follow this arrangement.

Anatomical character.—The pleura is a polished, smooth membrane enveloping the lungs and reflected from them over the inner walls of the thorax, forming, like other serous membranes, a shut sac. It is moistened by a secretion well adapted to prevent friction, and its office is for support and to facilitate movement. The anatomical changes which take place are: *First*, redness from injection of the capillaries of the sub-areolar tissue and dryness of the membrane from suppression of the lubricating secretion. The liquor sanguinis, soon begins to exude, and the fibrin in it coagulates. A greater or less quantity of liquid is found in the cavity, not so clear as the serum of dropsy, owing to the presence of coagulable

fibrin or lymph. The pleural surfaces are coated with lymph, which is soft and easily torn. The membrane becomes roughened and somewhat swollen from infiltration. The lymph coating the pleura may cover nearly the whole of it, or may be found in patches, according to the severity of the disease. The comparative density of this lymph is indicative of the time of its exudation. The serum which is in the cavity of the pleura cannot, of course, occupy space except at the expense of the lung. This organ is compressed according to the amount of the effused liquid, and when the quantity of liquid is great it may be compressed into a solid mass resembling flesh, the air-cells being almost wholly obliterated. No adhesions of their walls take place, however, and after death the lung may be expanded; and in recovery this expansion takes place as the serum is absorbed. In case of recovery absorption of the serum commences soon after the disease reaches its maximum height. It is absorbed more rapidly at first, afterward more slowly, owing to increasing proportion of lymph or to the surface of the membrane being covered with lymph, thus retarding absorption. A portion may remain unabsorbed and continue so for an indefinite time, constituting chronic pleuritis; the lymph is absorbed subsequent to the serum. The opposing surfaces, covered with lymph, are agglutinated at points of contact, or occasionally throughout the entire surface. The course of the disease may be divided into three stages: First, of effusion; the next until the effused liquid begins to decrease; and the third, its disappearance. Effusion takes place quickly, sometimes within a few hours after the patient is attacked. The second stage varies in duration from a few days to a week, or even longer. If the third stage, that of absorption, is protracted longer than twenty days, it becomes chronic pleuritis.

Symptoms.—The attack usually comes on suddenly; occasionally there is some pain for two or three days preceding. The attack is sometimes, but not always, ushered in with a chill. Pain is generally an accompaniment. It is of a sharp lancinating character, and is worse during inspiration. The pulse is increased in frequency and strength. The temperature is increased (102 or 103). Cough is usually present; it is painful, and the patient tries to suppress it as much as possible. The effort to do so gives it a peculiar character which is easily recognized. A little mucus is raised. The respirations are increased in frequency, but are mostly owing to voluntary efforts on the part of the patient who tries to make

up in frequency what they want in volume, for a full inflation increases the pain. The abdominal muscles are also used more in the act of respiration for the same reason. As the violence of the disease abates, the pain becomes less severe, the cough is less frequent and causes less pain, the fever abates and the heat approaches the normal standard. The respiration is more or less frequent according to the compression of the lung from the effused fluid. As absorption progresses, the respiration becomes less and less frequent. Soreness or pain in the affected side usually continues for some time after convalescence.

Causation.—It arises from colds, from contusions, and wounds; often it occurs spontaneously, that is, without any apparent exciting cause. It also occurs in connection with Bright's disease of the kidneys, and acute rheumatism. It is more common in early and middle life; occasionally in childhood, and rarely in infancy and old age.

Diagnosis.—The symptoms of pleuritis are sufficiently pronounced and characteristic to generally enable us to determine the nature of the disease. Yet in some cases we may be at fault. The sharp lancinating pains are not peculiar to this disease. The same occur in intercostal neuralgia and pleurodynia. In pneumonia the pain is sometimes as intense as in pleurisy, and hence the former is sometimes mistaken for the latter. Again, where the pain is slight we may mistake the disease. Therefore, we must discriminate between pleuritis, pneumonitis, intercostal neuralgia, and pleurodynia. But with the characteristic pain, the fever, cough and respiration, aided by the physical signs, we ought to make no mistake. You will remember my calling attention to the value of auscultation and percussion in diagnosis. In the very beginning of the disease these aids are somewhat doubtful, but as the disease progresses they are valuable. The first sound heard is the friction murmur, and, if perceived, is of value. The crepitant rale of pneumonia, if heard, settles the question in favor of that disease. But after effusion is present the physical signs are more pronounced. On percussion dullness is perceived at the lower part of the thorax, and its extent indicates the amount of liquid. The patient should be in a sitting posture, for the fluid seeks the most dependent part, and if the patient is in a recumbent position there may be resonance where before there was dullness. If it should be a second attack of the disease, however, with old adhesions, these may prevent the effused fluid from seeking the lowest

position. Above the level of the liquid the resonance will be increased on account of the compression of the lung. On auscultation we cannot hear, or but slightly, the respiratory murmur below the line of effusion; above it it is weaker than in the sound side. If the lung be much compressed the sound will be bronchial, and the vocal resonance will be increased. If the lung is solid no respiratory murmur will be heard, only the air rushing through the bronchial tubes. This sound has sometimes a tremulous character, and is called *ægophony*. After absorption the friction murmur may be louder than during the disease from the surfaces roughened by lymph coming together. If the physician is well grounded in these physical signs he will very rarely make a mistake in the diagnosis of the disease.

Prognosis.—The prognosis in this disease is favorable if there is no complication, and the constitution of the patient is good. Occasionally it proves fatal from large and rapid effusion; and also when occurring in the course of Bright's disease, the patient being too much debilitated by that disease to withstand the shock of the other.

Treatment.—*ACONITE* is indicated in the beginning of the disease. The symptoms indicating its use are chill, followed by dry heat, lancinating pain through the chest, short dry cough, short superficial breathing. These symptoms correspond to those present in the first stage of pleuritis. *Aconite* is not indicated after effusion has commenced, but, given at the very outset of the attack, it frequently arrests its course, and proves curative.

Should *Aconite* fail to speedily relieve, or if you are not called to the case before exudation has commenced, *BRYONIA* is the remedy. This is the main remedy, and, in a large majority of cases, is sufficient to effect a prompt cure. Its use is indicated as follows: respiration impeded, quick and without motion of the ribs, cough dry, tearing stitches in chest, worse during motion, and on deep inspiration.

The two remedies I have mentioned suffice for the large majority of cases. In my own experience, in only one instance have I ever given any other remedy. *Aconite* may be given in often repeated doses. Put five drops of the third dec. dilution in one-half glass of water, and administer a teaspoonful once an hour. *Bryonia* may be given in the same potency and quantity, but not so often—once in two or three hours.

In traumatic pleuritis *ARNICA* is highly recommended

from its known curative action in inflammation following contusions.

DIGITALIS is indicated in pleuritis serosa when the disease has failed to yield to *Bryonia*, and there is considerable effusion of serum in the pleural cavity. I have never had occasion to use it. My own experience would rather call for the administration of ARSENICUM in case of great serous effusion, and I quote from Wurmb as supporting my view. He says: "In serous effusions ARSENIC is probably the most important remedy. My confidence in this agent is so great that I doubt the possibility of curing a case where *Arsenic* does not effect the least improvement."

Action of medicines relieves the active inflammation, and spontaneous absorption probably takes place through vital forces.

CHRONIC PLEURITIS.

Chronic pleuritis does not differ essentially from the acute form, save by its different degree of duration and by the greater effusion of serum. This is frequently so great that the lung of the affected side is compressed into a small space, and the affected side is dilated, with bulging of the intercostal spaces. The diaphragm, liver and stomach are depressed, the heart pushed to one side, and if the effusion is in the left cavity, it may be carried to the other side of the sternum. Chronic pleuritis occasionally follows acute, but more usually it is subacute from the first. It develops slowly and insidiously at first, affecting the patient's general health but little. Cough is not a prominent symptom; if present it is dry and hacking, with occasionally slight expectoration of glairy mucus. The number of respirations is increased, especially after exercise. Dyspnœa is not great unless the effusion is large or rapidly increases. The pulse is somewhat accelerated, and is weak. The duration of the disease is from several weeks to three or four months.

Causation.—It may be due to blows, compression, cold, or occur in the course of some other disease; as Bright's disease of the kidneys.

Diagnosis.—It may be overlooked in the beginning unless the chest be carefully examined. With the aid of the physical signs the diagnosis is not difficult.

Prognosis.—Uncomplicated with other serious affections, the prognosis is favorable. Occasionally after absorption the affected side is contracted. The lung may be bound down

by adhesions, and consequently fails to regain its normal size. In some cases the deformity is quite marked.

Treatment.—The same as in acute pleuritis, except that *Aconite* is not indicated.

If by the administration of remedies we fail to cause the absorption of the effused serum, we should after all inflammation has subsided resort to paracentesis. It may be performed either by a trocar and canula or by the aspirator. I think I should prefer the latter. The needle of the aspirator or trocar should be inserted between the sixth and seventh ribs about half way between the sternum and spine.

There is a variety of pleuritis which may be called suppurative pleuritis, and which differs from the other by the formation of pus instead of serum. The symptoms vary little if any from those mentioned as characteristic of serous pleuritis. Perforation of the walls of the chest occurs in this variety. A soft fluctuating tumor makes its appearance over the point of perforation, ulceration of the integument takes place, and the pus is discharged. In this variety a positive diagnosis can be made by inserting an exploring needle. Sometimes the pus makes its way through the lung and bronchial tubes and is expectorated. In this variety absorption seldom takes place, and the contents must be evacuated. The prognosis in case of spontaneous escape is not favorable, hectic fever with its accompaniments destroying life by asthenia. If a fluctuating tumor forms, it should be opened.

PHOSPHORUS and SILICIA are the remedies to be used, and I recommend the 30 and 200 potencies as preferable to the lower.

HYDROTHORAX.

Hydrothorax is not a variety of pleuritis, but is mentioned in connection with it because the physical signs pertaining to it are very similar to those in acute and chronic pleuritis. It is, however, a dropsical affection, and like all such, the real seat of the disease is elsewhere. It rarely occurs alone, but in connection with dropsical effusions elsewhere. Nearly always there is effusion in both sides of the thorax. There is seldom pain, cough or fever, and if these are present they are due to other causes. There is difficult respiration, owing to the pressure of the effused liquid. The treatment belongs to the disease of which the hydrothorax is only a symptom, and will be considered when speaking of those affections. When the dyspnœa is considerable, however, it is best to

resort to puncturing the thorax and drawing off the serum as a palliative measure. The fluid may be drawn off rapidly and completely, as usually there is no obstruction to the descent of the compressed lung. If, however, there are any symptoms of syncope, the flow should at once be arrested.

CHAPTER II.

PHYSICAL DIAGNOSIS.

PALPATION—PERCUSSION—AUSCULTATION—METHODS OF PERCUSSION—
SOUNDS OF—METHODS OF AUSCULTATION—NORMAL SOUNDS—ABNOR-
MAL SOUNDS—ADVENTITIOUS SOUNDS—VOCAL FREMITUS.

IN the diagnosis and prognosis of diseases of the thorax we derive valuable and indispensable assistance from the physical signs. A thorough knowledge of them is, therefore, very necessary to enable the physician to accurately determine the condition of his patient.

I propose, in a brief chapter, to give a concise summary of the signs and their significance.

PALPATION.

There are three methods of physical diagnosis; namely, palpation, percussion and auscultation. Palpation is the application of the hands to the walls of the chest. It determines variations in size of the two sides, soreness, frequency of respiration, the action of the heart, vibration produced by rales, by the voice, or by friction.

PERCUSSION.

Bodies struck with quick, sharp blows give different sounds, according as they are solid, hollow, hard, soft, yielding or elastic.

Methods of percussion.—There are two methods of percussion—mediate and immediate—immediate when the blow is applied directly to the object, and mediate when a substance is interposed between. Mediate percussion is commonly employed, and two media are used. A pleximeter of hard rubber or ivory, and the middle or forefinger of the left hand. For the thorax the finger is preferable. The finger should be employed with its palmar surface to the chest and parallel

to the ribs, and the blow should fall perpendicularly upon it. It is always advisable, in affections confined to one side, that corresponding places on each side should be percussed, so as to institute comparisons between normal and abnormal sounds. The different sounds elicited by percussion are called resonance, dullness and flatness. Resonance, or clear sound, is that elicited by striking a healthy chest, and differs somewhat according to the place struck. It is greater in front than behind, because the anterior wall is thinner. It is more marked just below the clavicle. Below the fourth rib on the right side it is somewhat less clear. On the left side, from the fourth to the sixth rib, and from the sternum to the nipple, there is diminished resonance over the heart. On the back the resonance is greater under the scapulæ.

Abnormal sounds of percussion.—Dullness denotes absence of air, and denotes the filling up of the air-cells, or something which checks the vibrations of the lung tissue. Flatness denotes complete solidification of the lung, or the presence of effused fluid in the pleura. This sound is obtained by percussion over the liver, and indicates the total absence of air. Tympanitic resonance resembles the sound produced by percussion over an intestine filled with air. It denotes air enclosed in walls which are yielding but thin. When heard over the chest it may be transmitted from the stomach or colon filled with air, but it usually indicates pneumo-thorax, dilated air-cells or a cavity. Modifications of tympanitic resonance are the amphoric resonance and the cracked pot sound. The first denotes a large cavity with firm elastic walls, the second a cavity communicating with a bronchial tube. The latter is not often heard. To develop the sound requires a quick, sharp blow while the patient has the mouth open. All these sounds vary with the age, the strength and feebleness of the patient, the different degrees of thickness of the thoracic walls, and during inspiration and expiration. To become familiar with the import and significance of them one must needs study carefully the healthy sounds to compare them with abnormal sounds, and their different grades of intensity.

AUSCULTATION.

Auscultation is listening to sounds. It affords the most ready and certain method of diagnosis of diseases of the chest. We owe its discovery to Laennec, and it is one of the most valuable aids in the investigation of pulmonary and cardiac affections.

Methods of auscultation.—Two methods are practiced. Immediate, by the direct application of the ear to the chest; and mediate, by the use of the stethoscope. A good deal has been said about the relative value of these two methods, but I think every physician should accustom himself to both, as each has special adaptations to certain conditions. Immediate auscultation is to be preferred in general examinations, but when special regions, as over the heart, are to be examined, or analysis of circumscribed lung sounds to be made, the stethoscope is best. Stethoscopes are single and double. The one most in use is Camman's. It intensifies the chest sounds, but it has the disadvantage of intensifying all sounds, and its use is, therefore, confusing to the learner. However, with practice one learns to discriminate and to shut off irrelevant noises.

Position of patient and directions for physician.—Place the patient in an easy, unconstrained position, and so that the head in listening, will not be too low. The chest should be bare or only covered with a thin garment. A merino undershirt is the best. Apply the ear or stethoscope closely, but do not press either upon the body. Examine repeatedly different portions of the chest, compare them with each other, and particularly compare corresponding points over each side; make the patient count, talk, cough, and inflate the lungs to their full capacity; also make him breathe with the mouth open and shut.

Normal sounds of respiration.—These are two, bronchial or tubular sound, and vesicular murmur. The first is heard over the larynx, trachea and upper part of the sternum; elsewhere, in health, it is overpowered by the vesicular murmur. It is a blowing sound, occasioned by the passage of air through tubes and is heard both in inspiration and expiration. The second or vesicular murmur, is very different. It is softer, more prolonged, of lower pitch, most distinct in inspiration, less distinct and shorter in expiration. It is produced by the alternate expansion and contraction of the ultimate bronchial tubes and the myriads of air-vesicles. It is more clearly heard in the upper lobes anteriorly than posteriorly, and in the left lung than in the right.

Abnormal bronchial sounds.—Without doubt the larger bronchial tubes give sounds of bronchial respiration; but covered up by the more diffused and stronger vesicular murmur, it is not heard in health save at the points before indicated, but in diseases consolidating the lung tissue, it becomes

audible and resembles the sound heard over the larynx and trachea. It replaces the vesicular sound, is higher in pitch, occurs in inspiration and expiration equally, and is of a blowing character. It is supposed to arise from the better transmission of sounds through the solidified lung tissue, and indicates obliteration of the air-vesicles.

Another variety of bronchial respiration is styled *cavernous*. It is not always distinct in inspiration and expiration, is sometimes mixed with gurgling sounds, is more hollow and of lower pitch. Its presence is indicative of a cavity from dilated bronchia, from broken down tubercle, or from an abscess. Amphoric respiration, so called from its resemblance to blowing in the mouth of a bottle, is a rare sound, only occasionally heard. It is indicative of a large cavity communicating with a bronchial tube, or a cavity formed by air between the layers of the pleura.

Varieties of vesicular murmur.—*First*. These may be divided into increased, diminished or absent murmur. *Second*. Divided, jerking respiration and prolonged expiration. *Third*. Harsh or rough respiration.

Increased vesicular murmur is styled puerile respiration, from its resemblance to the breathing of children. It does not indicate disease, but energy of action to compensate or supplement deficiency elsewhere. It indicates solidification or compression of one lung, or obstruction of the smaller tubes, preventing the ingress of air, thus necessitating increased action of the healthy lung. Diminished murmur is a feebleness of the whole sound without change in its character. It is caused: 1. By foreign bodies lodged in the trachea or bronchi, diseases of the larynx, thickening of the membrane of the bronchial tubes, contractions by spasm or compression—in short any cause which obstructs the ingress of air. 2. By general debility or severe pleuritic pains, pleuritic effusion causing compression of the lung, accumulation of fat, deposits of miliary tubercles and emphysema.

Absent respiratory murmur is caused by complete obstruction of the tubes, extensive pulmonary deposits, or great compression from effusion, completely closing the air-cells.

Alteration of rhythm.—Inspiration may be divided by short intervals called jerking inspiration, or both inspiration and expiration may be shortened. These changes may be due to hysteria, to pain or to tubercular deposits. If to the latter, there are other symptoms present to aid in the diagnosis; as dullness on percussion, fever, etc.

Prolonged expiration is caused by obstruction to the egress of the air, and may be due to dilatation of the air-cells in emphysema, from loss of contractility of their walls. It is also caused by tubercular or other deposits in the lungs. In the first case, there will be increased resonance on percussion, in the latter dullness.

Swelling of the mucous membrane of the tubes causes prolonged expiration. Bronchial respiration is more distinctly heard than in a normal condition of the tubes.

Harsh respiration is a mixture of vesicular murmur and bronchial respiration, the latter being more audible from some compression of lung tissue, the compressed lung affording a better medium for the transmission of bronchial sound.

New sounds.—These are sounds which are not modifications of those heard in health, but entirely distinct from them. We may divide them into rales and friction sounds. Rales are of three varieties: vesicular, bronchial and cavernous. Of the first or vesicular, we recognize two sounds; the crepitant and the crackling. The first consists of a series of fine sounds, very much resembling that produced by rubbing the hair near the ear between the fingers. It is heard only during inspiration, and is caused by movements of fluids in the air-cells or terminal bronchial branches, or as some suppose by the forcing open of agglutinated air-cells. It occurs in the first stage of pneumonia, and is usually heard at the base of the lung. Crackling differs from crepitation only in degree, consisting of a few fine crackling sounds resembling crackling made by salt when thrown on a fire. It denotes the presence of softening tubercle, and is heard at the apex of the lung. The distinction is somewhat arbitrary and is not readily distinguished save by an expert.

Bronchial rales.—These are dry or moist. The dry are sibilant and sonorous. The first from the passage of air through the smaller bronchial tubes, narrowed by thick mucus or by swelling. The latter from the same cause in the larger tubes. The sibilant sound has a higher pitch than the sonorous.

When caused by the presence of mucus they are not persistent, but are modified by the acts of breathing and coughing, frequently disappearing or changing their location after the latter as the mucus is expelled. If due to swelling of tubes the sound is uninfluenced by breathing or coughing.

The moist rales are the subcrepitant and mucous. The subcrepitant or small bubbling rale is caused by the passage of air through thin mucus in the smaller bronchial tubes; mucous

rales by the passage of air through this mucus in the larger bronchial tubes. These sounds are heard in bronchial inflammation. Cavernous rales or gurgling sounds, are sounds produced by liquid in cavities agitated by the passage of air through it. They are heard in cavities formed by the discharge of an abscess, or the breaking down of large masses of tubercle.

Friction sounds.—Friction sounds are caused by the rubbing together of surfaces roughened by an exudation of plastic lymph. They are heard in pleuritis and pericarditis, and resemble the creaking of leather, crumpling of parchment, the grazing of cattle or a series of clicks. It is synchronous with respiration or sounds of the heart according to its situation. When caused by pleuritis, it is difficult to discriminate from crepitant and subcrepitant rales. The creaking sound is more easily recognized than the others, and is often distinctly felt by the hand.

Vocal sounds.—Changes in the sound of the voice heard over the chest, have a certain diagnostic value as indicating certain changes in the density of lung tissue. Normal vocal resonance is the sound of the voice transmitted through healthy lungs.

Abnormal sounds.—Abnormal sounds are bronchophony, cavernous voice or pectoriloquy, ægophony, and diminished vocal resonance.

Bronchophony or increased vocal resonance is caused by the better transmission of sound, and is due to solidification of lung tissue by hepatization or tubercular deposits.

Ægophony is a peculiar vibratory tremulous sound, is rarely heard, and is indicative of a thin layer of fluid between the compressed lung and the ear.

Pectoriloquy is sound of the voice transmitted through a large cavity. The voice has a hollow ringing sound.

Diminished vocal resonance occurs when the lung is compressed by effusions, in pneumo-thorax and in emphysema. The voice may also be felt by placing the hand on the chest while speaking. The vibration of the voice is called vocal fremitus. It is increased by solidification of the lung, and diminished by accumulations of fluid or air in the pleural cavity.

CHAPTER III.

PNEUMONITIS, PLEURODYNIA AND INTERCOSTAL NEURALGIA.

SEAT OF THE DISEASE—ANATOMICAL CHANGES—SYMPTOMS—STAGES OF
PNEUMONITIS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.
PLEURODYNIA—INTERCOSTAL NEURALGIA.

PNEUMONITIS.

(*Synonyms*, PNEUMONIA, LUNG FEVER.)

Seat of the disease.—The substance or parenchyma of the lungs consists of the air-cells or vesicles, and terminal bronchial branches with the vessels and tissues surrounding them. The membrane which lines these cells and bronchioles is the seat of inflammation in acute pneumonia. The membrane which lines the cells and bronchioles is different from that which lines the bronchial tubes, and this difference of structure is said to account for the fact that in bronchitis the inflammation rarely extends to the substance of the lung.

The air-cells and bronchioles make up the lobules, and these united by tissue constitute the lobes into which each lung is divided; the right into three and the left into two. Acute pneumonia usually involves at least one lobe, and when limited to one is called lobar pneumonia; when affecting less than a lobe it is styled circumscribed pneumonia.

Anatomical changes—Symptoms—Stages.—The first change occurring in acute pneumonia is the same as in pleuritis, namely a state of hyperæmia due to active congestion. The lung becomes heavier from the increased quantity of blood which it contains. The hyperæmia does not prevent the air from entering the cells. Soon, or from the beginning, a little albuminous fluid is found in them. Exudation soon follows, coagulable lymph escapes from the blood and fills the cells which become solid. The air ceases to enter the

cells. The lung then presents the appearance of liver, and this condition is termed hepatization. The substance of the lung is heavier than in health, and sinks in water. It also becomes softened, and breaks down easily under the finger.

If the progress of the disease is favorable, the effused lymph is taken up by absorption and removed by expectoration. The air-cells sustain no damage, and their capacity is fully restored after the exudation disappears. The circulation is also restored, and the functional activity of the part affected is as perfect as before. But if, on the contrary, the progress of the disease is unfavorable absorption does not take place, and the affected part is filled with liquified fibrin and pus. This condition is called purulent infiltration or gray hepatization, from the color, which is grayish. The substance is much softened. Sometimes abscesses form.

Pleuritis is frequently an accompaniment of pneumonia, but there is seldom any great amount of effusion. The term pleuro-pneumonia denotes the co-existence of these two affections. The disease attacks the right lung oftener than the left; out of one hundred and fifty-one cases, ninety were of the right lung, thirty-eight of the left, seventeen of both, and six uncertain, and the lower lobe oftener than the upper. It seldom attacks two lobes simultaneously, but invades one, and then a second or third. Or a lobe of one lung may be attacked and afterwards a lobe of the other lung. When both lungs are affected the pneumonia is said to be double.

The inflammation does not attack a whole lobe at once. It begins at a certain point and progresses lobule by lobule until the whole is affected. Its progress may be watched from time to time by means of physical signs.

We may divide the course of pneumonia into three stages: *First*, of engorgement. *Second*, of solidification or hepatization; and, *Third*, of resolution, if the disease takes a favorable course, or purulent infiltration if unfavorable. The duration of each of these varies in different cases. The state of engorgement or congestion lasts from a few hours to two or three days; the second occupies from two to four days; that of resolution occupies from four to ten days. If the disease passes into purulent infiltration, death generally ensues in from two to four days.

Pneumonia usually begins with a chill, followed by fever. The temperature is greater than in pleuritis, ranging from 103° to 106° or 107° . In mild cases the temperature rises to 104° . A sudden increase denotes either that a new lobe is

attacked or an intercurrent affection. There is usually pain. It is sharp and lancinating, sometimes very severe, resembling the pain of pleuritis. In fact, it generally proceeds from pleuritis, which in the majority of cases is associated with pneumonia, and the pain is proportioned to the severity of the pleural disease. Occasionally pneumonia is attended with little or no pain. Cough is usually present and is attended with expectoration. This at first is viscid, transparent, and scanty, but soon assumes a character distinctive of the disease. It becomes adhesive and has a reddish tint like brick-dust or rust. The adhesiveness is such that it cannot be poured from a vessel but remains attached to the bottom even when the vessel is inverted and shaken. The rust-colored sputa is not always present, but when it is is considered diagnostic. Other symptoms are, pain in the head, loss of appetite, feeling of constriction in the chest, rapid and difficult respiration, great heat of the skin, flushed face, pulse full and bounding, running from 80 to 100 to the minute, urine dark and scanty. These are the symptoms which characterize the first stage and the beginning of the second. During the second, or the stage of hepatization, there are some changes. The pain diminishes. The cough and expectoration continue, but the cough is less hard and painful, and the expectoration is freer and more easy. It also loses its rusty appearance and its adhesiveness. The respirations are still frequent from the solidified lung taking no part in the act of respiration. The symptoms during the stage of resolution show continued improvement. The fever diminishes, the cough and expectoration become less, the respirations become less frequent, the appetite returns, and convalescence is established. But if, on the contrary, the disease passes into the state of purulent infiltration, then the symptoms point to an unfavorable termination. The pulse becomes more rapid and feeble, the respirations increase in frequency, the expectoration becomes purulent and more abundant, the strength fails and the patient dies from asthenia; sometimes from asphyxia from the patient's inability from weakness to expel the accumulation of purulent matter.

Delirium occasionally occurs in this disease. It indicates severity of attack and is indicative of danger if it be persistent. I have only met with it in one or two cases.

In certain cases it develops into typhoid pneumonia, by which we mean the occurrence of symptoms peculiar to typhoid fever; low muttering delirium, sordes, etc.

Causation.—Pneumonia is common to all ages, but occurs more often in middle life, and more frequently among males than females. This last is probably owing to the greater exposure of males to the vicissitudes of the weather. The disease occurs much oftener in winter than in summer, and in the North more cases occur in March than in any other month. Exposure to severe cold and wet is undoubtedly a potent cause of pneumonia. It frequently follows any prolonged exposure to cold, although it often seems to develop spontaneously, by which we mean that we do not know what causes it. It is frequently developed during the course of typhoid fever. This disease is much more prevalent in the Middle and Southern States than in the Northern. In the South it is sometimes epidemic.

Diagnosis.—In the majority of cases the diagnosis is easy. The pain, the cough, the characteristic sputa, the difficult respiration, all point unmistakably to the real nature of the disease. But there are cases where these symptoms, or a part of them, are wanting. In some cases there is little or no pain, and no cough or expectoration. In such case the physician is liable to be mistaken in his diagnosis, unless he calls to his aid the physical signs. With them he can hardly fail, and only by their aid can he determine the location, the extent and the gravity of the attack. In the first stage the physical signs to be relied on are dullness on percussion, and the crepitant rale during inspiration. As the lung becomes solidified percussion elicits a flat sound, very different from the sonorous sound produced by percussion over healthy lungs. The respiratory or vesicular murmur is no longer heard, but in its place bronchial respiration and bronchophony. The commencement of resolution and its progress are also denoted by physical signs. The bronchial respiration gives place to the broncho-vesicular, and that in turn to the normal vesicular murmur, as absorption progresses and the air-cells become again free. The dull sound elicited by percussion becomes more and more resonant, until it resembles that of healthy lungs. If the disease pass into the suppurative stage the dullness on percussion continues, and the moist bronchial rales are heard. If an abscess forms, and the pus is discharged, amphoric or cavernous respiration is heard.

Prognosis.—The prognosis is generally favorable. It depends upon the severity of the attack, the extent of lung involved, and the constitution and age of the patient. If only one lobe is attacked, and the age and constitution of the patient

favorable, the chances are decidedly in favor of recovery. Even if two or three lobes be involved, if the patient has a strong constitution we may confidently look for recovery. I have also occasionally had cases involving a lobe of each lung, and yet recovery took place. Indeed, I may say that in nearly every case of pneumonia under homeopathic treatment recovery is the rule and death the exception. I lost a patient two years ago, a man sixty years of age, of strong constitution. He was very unfavorably situated as regards attendance and good air, and he was highly imprudent in his conduct. The case ended in purulent infiltration. I have treated patients of all ages and conditions, and nearly always successfully, and I think this is the experience of my brethren. There are some statistics of the comparative success of the different schools in this disease, but they have been quoted so often that I refrain. Symptoms denoting an unfavorable result are as follows: frequency and feebleness of the pulse, quick and labored respiration, blueness of the face, bloody dark colored sputa, low muttering delirium and great prostration. These symptoms forbode speedy dissolution.

Treatment.—I do not intend to call attention to all the remedies which have been recommended for this disease, but to those only that provings have shown to cover the majority of the symptoms, and which clinical experience has proved to be the most efficacious. I mention *Aconite*, *Belladonna*, *Bryonia*, *Phosphorus*, *Tartar emetic*, *Hepar sulphur*, *Rhus*, *Lycopodium* and *Carbo vegetabilis*.

ACONITE.—This, as in pleuritis, is indicated in the first or stage of congestion, and in many cases is sufficient to arrest the disease and prevent it passing into the second stage. The symptoms calling for its administration are chill followed by fever; fever with pulse quick, full and hard, face flushed, sharp lancinating pains in the chest, respiration quickened, with sense of constriction and oppression in the lungs, dry cough with expectoration of a small quantity of viscid tenacious mucus, dullness and pain in the head, great thirst, and scanty urine. If you compare these symptoms with those of *Aconite*, you will observe how closely they correspond. In cases of death from poisoning with *Aconite*, the lungs are found engorged with blood, but there is no exudation into the air-cells. This would seem to indicate that *Aconite* is only indicated in the congestive or first stage. Bæhr says that *Aconite* will scarcely ever cure pneumonia, much less cut it short. This may be true regarding pneumonia as a disease

embracing both the congestive stage and the stage of solidification. But I think that *Aconite* promptly administered in the congested state of the lung relieves the hyperæmia and cures the patient; whereas without its administration we should probably have a case of pneumonia proper. We may call this precursory stage congestion. One step further and we have pneumonia. However this may be, by the use of *Aconite* at the invasion of the disease we diminish the arterial action, relieve the hyperæmia, and prepare the system for the remedies which are to follow.

As soon as the physical signs indicate that effusion into the air-cells has begun, the curative action of *Aconite* is ended and that of *Bryonia* begins. Dullness on percussion, a diminished or absent vesicular murmur, the expectoration of rust-colored sputa, and lancinating pains are the leading symptoms calling for the use of *Bryonia*. It is especially adapted to that form of the disease called pleuro-pneumonia. The pulse is not so full and hard as in the first stage, a slight moisture of the skin is frequently present, contrasting with the dry heat of *Aconite*, the tongue is coated with a whitish or gray fur, the thirst is moderate. *Bryonia*, according to the toxicological provings, causes exudation both in the pleural cavity and in the air-cells, and therefore is particularly adapted to the stage of hepatization. You will remember that in death from *Aconite* the lungs were found to be only engorged. In a large majority of cases *Bryonia* will be the only remedy needed to follow *Aconite*, and if you are not called until after the second stage has commenced, the only remedy you will need during the course of the attack. Under its action resolution and absorption soon begin, and go on until the lung recovers its normal character.

BELLADONNA is seldom called for in pneumonia, but there are cases where it is useful. When there is cerebral congestion with active delirium, or when the fever is not purely synochal, in the pneumonia of old people and of drunkards, or when typhoid symptoms manifest themselves at the outset, *Belladonna* may take the place of *Aconite* with advantage.

Dr. Fleischman of Vienna is the strongest advocate of the curative virtues of PHOSPHORUS in pneumonia. He asserted that a pneumonia which could not be cured with *Phosphorus* could not be cured at all. It is undoubtedly a valuable remedy in the disease, and often indicated. In pure pneumonia if *Bryonia* does not produce amelioration in three or four days, if the hepatization is extensive, the pulse increased

in frequency, the expectoration scanty and bronchophony is heard, then *Phosphorus* may be administered with great advantage. I have also used it with great benefit when absorption has been retarded, with dry cough and continued dullness on percussion. In the rare cases in which abscess forms in the lung *Phosphorus* is, I think, the most valuable remedy. In one case, following long continued compression, it was the only remedy used. In another, occurring in the course of an attack of pneumonia, it was used in conjunction with *Silicia*. The patient died of hectic a year afterward.

TARTAR EMETIC has the following symptoms in its pathogenesis: Rapid, short breathing, dyspnœa, cough, with copious expectoration, chest seems full of phlegm, without ability to expectorate. Now, it sometimes happens that there is a great accumulation of mucus in the lungs, owing, perhaps, to absorption not keeping pace with resolution. This accumulation gives rise to dyspnœa and a feeling of fullness in the lungs. In this condition *Tartar emetic* is the best remedy. In Watson's Theory and Practice he highly recommends *Tartar emetic* in large doses in pneumonia, and it has been a favorite remedy with the allopathic school for many years. It has been given in enormous doses, especially by Risori, an Italian physician. He gave to one patient 812 grains in six days, and to another 826 grains in the same period, and also bled him ten times. Both patients died. During the last two days there was no vomiting, as the stomach had become tolerant of the medicine. The question might be raised whether they died of the disease or of the medicine. In one case a post-mortem revealed some hepatization in the right lung.

RHUS TOX. is indicated more particularly in typhoid pneumonia, or pneumonia with certain symptoms peculiar to typhoid fever. The indications for its use are adynamic fever, prostration, brown, dry tongue, restlessness, *subsultus tendinum*, low, mild delirium or sopor. When typhoid fever is prevalent, pneumonia is liable to assume this form, and *Rhus* shows here the same power it displays in typhoid.

In extreme debility, with diarrhœa and unconsciousness, PHOSPHORIC ACID should be administered.

If notwithstanding our efforts the disease threatens to run into the suppurative stage, we may still save our patient by the timely use of *Carbo vegetabilis*, *China* and *Lycopodium*.

The symptoms for CARBO VEGETABILIS are, profuse and cool

perspiration, pulse rapid and feeble, feeling like a thread under the finger, tongue dry, breath offensive, putrid, superficial respiration, rattling in the chest, inability to raise anything.

Gangrene calls for ARSENICUM, and possibly *Carbo vegetabilis*.

LYCOPodium is rather adapted to the chronic than the acute form of pneumonia, and is only useful after the acute symptoms have subsided and convalescence is delayed.

PLEURODYNIA AND INTERCOSTAL NEURALGIA.

I speak here of pleurodynia and intercostal neuralgia, because, from certain similarity of symptoms, they are liable to be confounded with pneumonia and pleuritis. The mistake is not made as often as formerly, on account of physical diagnosis being better understood and more universally practiced. The term pleurodynia is a painful affection or rheumatism of the intercostal muscles, and intercostal neuralgia is a neuralgia of the intercostal nerves. The symptoms attending them are lancinating pain, aggravated by inspiration, sometimes attended by a dry cough, and in the case of pleurodynia there may be some fever.

Diagnosis.—One method is by exclusion. You will remember the symptoms belonging to pleuritis and pneumonia. If you have marked absence of the physical signs which mark the invasion and progress of these two diseases, and if you have only the pain, dry cough and slight fever, you may be quite certain that you have either pleurodynia or neuralgia to treat. But how shall we discriminate between the last two. Neuralgia as a rule is not accompanied by fever. It has another diagnostic difference; namely, the existence of tenderness in various points, one behind, near the vertebræ, one in the side, in one of the intercostal spaces, and in front in one or more intercostal spaces near the sternum. This tenderness is usually confined to a very small space. It occurs like pleurisy, oftener on the left than on the right side. Of the two, intercostal neuralgia occurs much more frequently than pleurodynia. It is a frequent complaint, affects the poorer classes more often than those in comfortable circumstances, and affects females oftener than males; it often follows intermittent fever. The amount of suffering, and the duration of the disease vary much in different cases. It is often slight, and often very painful and annoying. It

may last a day or two, or defy treatment for a considerable period.

Treatment.—For intercostal neuralgia the remedies are *Aconite*, *Mezereum*, *Cimicifuga* and perhaps *Arsenicum* and *Spigelia*. For the pleurodynia, I have found *Bryonia* and *Rhus* the most useful remedies.

CHAPTER IV.

BRONCHITIS.

DEFINITION—ACUTE BRONCHITIS—ANATOMICAL CHARACTERS—SYMPTOMS
—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

BRONCHITIS is inflammation of the lining membrane of the bronchial tubes, and is the most common of all pulmonary affections, and prevails in nearly every country on the globe. There are several varieties of it. That form affecting the larger bronchial tubes is simply called bronchitis. That form seated in the smaller bronchia is called capillary bronchitis, and is a much more serious malady than the ordinary variety. A form characterized by the exudation of lymph is called diphtheritic bronchitis. An epidemic bronchitis is called influenza.

ACUTE BRONCHITIS.

In acute bronchitis the appearances are such as pertain to congestion of mucous membranes. There is redness from congestion, and swelling and thickening of the membrane. It becomes softened, and the diseased tubes contain more or less of the inflammatory products; namely, mucus and mucopurulent matter. In ordinary bronchitis the inflammation is confined to the larger bronchial tubes, and in most cases does not extend to the branches within the lobes. In severe attacks these may become involved. It differs from pleuritis and pneumonia inasmuch as it involves equally both sides. This disease is generally preceded, but not always, by coryza, or inflammation of the mucus membranes of the nose. Thence it travels downward, sometimes attacking and sometimes passing by the pharynx and larynx in its passage. The time occupied in the passage varies from a few hours to two or three days.

Symptoms.—The symptoms are chilliness, with flashes of heat, constriction, soreness and rawness over the whole chest.

This sensation of rawness is a very characteristic one. These sensations are aggravated by coughing. There is usually loss of appetite, and a feeling of lassitude and debility. The fever is not violent, nor is the temperature of the body much increased. The cough is painful, and, at first, rather dry, the expectoration being scanty, and is of a glairy, viscid, frothy mucus, occasionally streaked with blood. In three or four days the expectoration becomes more copious, and consists of thick yellowish or greenish mucus. This copious expectoration affords relief to the patient, and the accumulation is generally raised without difficulty, except in the case of aged persons and very young children. The increased amount of sputa indicates resolution or a subsidence of the disease. Respiration is not much affected, as the disease is confined to the larger bronchial tubes, and does not affect either the air-cells or the pleura. The average duration of the disease is ten or twelve days. In mild cases the patient is not confined to the bed or even to the house. We may divide the disease into two stages; that of invasion, when the pain, distress and scanty expectoration are present, and, second, that of resolution, when the expectoration becomes abundant and thick.

Causation.—It is generally attributed to exposure to cold, but experience shows that people accustomed to spending their lives in the open air, as trappers, hunters and soldiers, are less liable to it than people spending much time in houses. Partial exposure renders one more liable than complete. A soldier told me once that whenever he went home he took cold (which is the vernacular for mild bronchitis), but while he was in camp he escaped entirely. It is probable that the cause is due to some atmospheric influence, concerning the nature of which we are ignorant. It is pretty certain that epidemic influenza or bronchitis is due to some morbid agent in the atmosphere. Bronchitis occurs from fumes of gas, as chlorine; or from emanations from new-mown hay or certain plants; from powdered *Ipecac*, and even from a rose. It will be remembered my calling attention to this fact when speaking of certain idiosyncrasies of people, and their extreme sensibility to minute particles of matter.

Diagnosis.—Bronchitis may be mistaken for pneumonia or pleurisy. The points of difference are as follows: In bronchitis the pains are dull and under the sternum; in pneumonia and pleuritis, in the side. The expectoration of bronchitis is streaked with blood; in pneumonia it is intimately

blended and rust colored. Respiration is not labored in bronchitis; in pneumonia and pleuritis it is.

Physical diagnosis shows in bronchitis resonance on percussion, because the air-cells are free. The respiratory murmur is present, also the mucus rale in the bronchial tubes, owing to the passage of air through the mucus present in them. Sometimes there is suppression of the respiratory murmur in consequence of the clogging up of the tubes. A fit of coughing may suddenly make it audible again.

Prognosis.—Favorable. The disease is seldom dangerous except in the case of the aged, the young and the feeble. The danger to these arises from the accumulation of mucus in the tubes and the inability to expel it. The danger is from apnœa. In epidemic influenza the mortality among the aged is so great as to make quite an increase in the death-rate. This has been noticed in the London bills of mortality.

Treatment.—The remedies most suitable for this complaint are *Aconite*, *Tartar emetic*, *Spongia*, *Rhus tox.*, *Mercurius*, *Arsenicum*, *Sanguinaria*.

ACONITE is not often indicated, but when there is a rapid, full pulse, hot skin and other signs of synochal fever, it may be exhibited with benefit.

TARTAR EMETIC is indicated when there are severe paroxysms of coughing, wheezing respiration, bronchial rales, constriction and tightness across the chest, profuse secretion of mucus.

BELLADONNA, is, perhaps, better adapted to the disease than *Aconite*; yet I rarely use either unless the febrile symptoms correspond.

MERCURIUS is indicated especially in those cases which begin with coryza, fluent and corrosive; sensation of soreness in the chest with constriction; dry, violent cough, worse at night; expectoration yellowish, sometimes streaked with blood; perspiration, which does not relieve the patient.

SPONGIA may be given when there is a hollow, dry barking cough with wheezing inspirations. It is particularly adapted to children, especially when the larynx is affected with croupy symptoms.

PULSATILLA is indicated when the cough, at first dry, soon becomes loose with abundant expectoration of yellow, purulent mucus; it is further indicated in persons of lymphatic temperament.

In the epidemic form of the disease known as influenza, in addition to the remedies mentioned above, *Arsenicum*, *Ipecac* and *Ammonium carb.* may be added.

ARSENICUM I regard as the most valuable remedy in epidemic bronchitis, and rarely have occasion to use any other remedy.

The symptoms of influenza are very much like those of simple acute bronchitis, differing in the intensity of some of the symptoms, in the character of the fever, which is intermittent; in the great debility and prostration attending the attack; in the slow convalescence and in the well-marked premonitory symptoms. Some epidemics are much more severe than others, and prove fatal in many cases, especially among the aged.

ARSENICUM is especially indicated in cases in which there is great debility; the coryza a prominent feature, and the intermittent type of fever well developed. Allen's *Materia Medica* gives the following symptoms of *Arsenicum*: Nose swollen and pouring forth a profuse corrosive discharge, fluent coryza, excessive coryza with hoarseness. The watery nasal mucus causes a smarting and burning in the nostrils as if they were made sore by it; dryness, burning and scraping in the throat; dryness of larynx; hoarseness, violent coughing; discharge of mucus streaked with blood; shortness of breath; tenacious mucus in the chest difficult to loosen; constriction of the chest with anxiety and restlessness; much lassitude and oppression of the chest when walking; general lassitude and weakness; continued weakness and prostration, intermittent fever.

PHOSPHORUS is indicated if pneumonia is threatened.

IPECAC is called for when there is loud rattling in the chest, dyspnœa, suffocation, cough.

AMMONIUM CARB. and VERATRUM are beneficial in the influenzas of old people.

There are other suitable remedies. A careful study of their provings will discover the sphere of usefulness of each.

CAPILLARY BRONCHITIS,

or bronchitis affecting the smaller bronchial tubes. Ordinary acute bronchitis affects, as I have said, the larger bronchial tubes. When the inflammatory action affects the smaller tubes, but not the minute capillaries, the disease is called capillary bronchitis, although it is not the capillaries which are involved. This disease was formerly known as catarrhus senilis, peripneumonia notha, suffocative catarrh, etc. This form of bronchitis is much more severe than the ordinary form, and more fatal in its results. The danger proceeds

from the obstruction to the current of air to and from the air vesicles. In the other form the larger size of the tubes permits the ingress and egress of air, but the much smaller size of the terminal branches permits their closure from the accumulation of mucus. The membrane is more or less reddened and softened, the tubes are filled with purulent mucus, portions of the lungs are apt to become œdematous. Dilation of the air-cells is also an effect of the disease. The symptoms are as follows: The respirations are frequent—in young children as high as sixty or seventy to the minute. Dyspnœa is marked, and in proportion to the increase of respiration: the speech is short and jerking; the patient cannot spend time for extended speech; the nostrils are dilated, the face congested and swollen, and the countenance evinces anxiety and distress. There is great restlessness. The pulse is rapid, but not in proportion to the frequency of respirations. There is cough and expectoration, the latter of purulent mucus. Percussion yields normal sound. Auscultation shows shrill wheezing and subcrepitant rales.

Diagnosis.—It differs from simple and diphtheritic laryngitis, for in these the voice is affected, and the respirations not increased in frequency. The physical signs, too, are different. Pneumonia is excluded on account of the absence of dullness on percussion. Pneumonia is generally on one side, while bronchitis affects both. Asthma has little or no fever, the respiration is not rapid, and there are loud wheezing rales. Pleuritis has signs common to bronchitis, but the absence of the symptoms denoting effusion in the latter disease enables us to discriminate between them.

Prognosis.—This disease occurs most frequently in young children and the aged, and proves fatal in many cases. It frequently runs a very rapid course, destroying life by apnœa. A fatal termination is indicated by lividity, frequent and feeble pulse, clammy perspiration, labored and frequent respirations, diminished cough and expectoration.

Treatment.—In this form of bronchitis I have found the greatest benefit from three medicines—*Belladonna*, *Tartar emetic* and *Ipecac*. The symptoms calling for their administration I have already detailed.

CROUPOUS BRONCHITIS.

There is a variety of bronchitis which is called croupous or membranous. It is characterized by an exudation of coagulable lymph on the mucous membrane. I do not know

that it differs in character from the exudation in membranous croup, and it requires the same kind of treatment as the latter affection. *Iodine, Spongia, Bromine* and *Bichromate of Potash* are the indicated remedies. I shall speak more particularly of special indications when we come to the treatment of croup.

CHRONIC BRONCHITIS.

Chronic bronchitis is persistent and long continued inflammation of the bronchial mucous membrane. It is generally the sequel of the acute form. It is more common to middle and advanced life, and is generally associated with asthma and pulmonary emphysema.

The symptoms are the same as are present in acute bronchitis, only differing in intensity. The changes which occur in the mucous coat of the tubes are hypertrophy, with congestion, presenting a roughened and dark red appearance. The bronchia are covered with a coating of thick purulent mucus. Dilatation of the tubes not infrequently occurs. Pain is generally wanting. If the cough is frequent and violent, soreness may be felt at the base of the chest or at the epigastrium. Fever may be present or not, according to the severity of the disease. The appetite is generally pretty good. Cough is a constant symptom. Its violence is in proportion to the amount of mucus in the bronchia, and the difficulty of detaching it. The expectoration is sometimes very abundant and raised with ease. The sputa is mucopurulent, and sometimes of almost pure pus. The expectoration was formerly considered diagnostic, pure pus being supposed to proceed from tuberculosis.

Diagnosis.—This disease is liable to be confounded with pulmonary phthisis. Many of the symptoms of the one are common to the other, and we must rely upon auscultation and percussion for a correct diagnosis.

Prognosis.—Chronic bronchitis is a disease of very slow progress, and occurring in persons of middle life not debilitated by any other disease, it may go on for many years without materially affecting the vital powers. Existing, however, in connection with other complaints, it may destroy a life already deprived of a portion of its vigor.

Treatment.—When chronic bronchitis is once firmly established it is a very difficult disease to cure, and the treatment must needs be largely palliative, to prevent a further advance of the disease, and to limit and cure the complications which

may arise. The remedies useful in chronic bronchitis are mainly the same which I have mentioned in the treatment of acute bronchitis; namely, *Tartar emetic*, *Pulsatilla*, *Spongia* and *Arsenicum*. Other remedies specially adapted to the chronic form are *Calcarea carb.*, *Phosphorus*, *Sepia*, *Lycopodium*, *Baryta carbonate*, *Senega*, *Hyos*, *Opium* and *Digitalis*. Of the first named I have already given the indication. Of the others I will mention one or two of the special indications calling for their use.

CALCAREA CARB. in dry irritating cough principally at night, with finally a scanty saltish expectoration. This expectoration is also characteristic of *Lycopodium*.

PHOSPHORUS is indicated when the sputa is chiefly pus.

LYCOPodium for cough excited by tickling in the throat, with gray expectoration of a saltish taste.

BARYTA CARB. in chronic bronchitis of old people, with profuse expectoration with difficulty in raising it.

SENEGA has dry cough, dryness in the throat, roughness in the throat, oppression in the chest, dull pressure on the chest, sore pain in chest. Some of these symptoms point to chronic laryngitis as well as bronchitis.

HYOSCYAMUS has a dry nocturnal cough worse on lying down, better after rising.

OPium is a valuable remedy according to Bæhr, when the patient has a spasmodic dry paroxysmal cough with scanty expectoration worse at night.

CHAPTER V.

ASTHMA AND LARYNGISMUS.

DEFINITION — SYMPTOMS — CAUSATION — DIAGNOSIS — PROGNOSIS — TREATMENT.

ASTHMA.*(Synonym, PHTHISIC.)*

THIS disease is due to obstruction of the smaller bronchial tubes from tonic spasm of the muscular fibres forming a part of them. Dyspnœa arising from disease of the heart, is not properly asthma. This disease is characterized by its occurrence in paroxysms, which take place more or less frequently, and which are followed by periods of remission, thus placing it in the category of periodical diseases. The attack may come on suddenly, or it may be preceded by precursory symptoms, as sneezing every morning, itching in the inner canthi of the eyes, irritation of the throat, dry, hacking cough, lassitude and depression. At times the attack is preceded by a sense of drowsiness and heaviness, or an unusual excitability. The paroxysm may develop slowly, or occur suddenly. The attack most commonly commences in the night, and is characterized by laborious efforts at breathing and a painful sense of suffocation from want of air. The patient is unable to lie down, but sits with the elbows resting on the knees or on a table, with the head thrown backward, the mouth open and gasping for air. Frequently the patient rushes to the window and thrusts his head out in the hope of finding relief from the inhalation of the out-door atmosphere. Probably the cold air, from its greater density, does afford some relief. The face is pale and perspiration profuse, the surface of the body is cool, the nostrils are widely dilated, the countenance denotes extreme anxiety and distress; a dry and harassing cough is sometimes present. The paroxysm may last but a

short time, or continue for several hours, or even days. Usually in a few hours the severity of the paroxysm abates, the dyspnœa becomes less, the sense of suffocation diminishes, the cough becomes loose and the patient is able to respire with comparative comfort.

These paroxysms recur at various intervals in different cases. Some will have an attack every night for a week or more, and then be free for months. Others will suffer from them at pretty regular intervals. Females occasionally have them only during the menstrual period. This disease is frequently associated with chronic bronchitis, and in these circumstances cough and expectoration are habitual. Emphysema is frequently associated with it also, and dyspnœa will then be a constant symptom.

Causation.—A susceptibility of the muscular fibers of the bronchial tubes to spasmodic action is one cause. This susceptibility is often inherited and transmitted from parent to child. The disease is sometimes developed in children without any assignable cause unless a predisposition to it is transmitted to them. It may be argued that as the disease attacks some individuals only when past middle age, it is not hereditary; but it is well known that some complaints are latent, so to speak, and develop at certain periods of life. Carcinoma is one of these. In most cases, in addition to the predisposing cause, some exciting cause must be present. An illustration of this is afforded in the so-called hay asthma, or rose asthma. When certain plants are in season the emanations from them are the exciting causes, and the disease is only relieved by the removal of the cause or the withdrawal of the sufferer from its influence. This form of the disease is never known to exist at sea. *Ipecac* is known to develop in some persons a form of asthma. Emanations from feathers, roses, the vapor of sulphur, are exciting causes in other cases. In the great majority of cases of asthma there is also chronic bronchitis. The frequency of the attacks of asthma are undoubtedly increased by the co-existent disease. The exciting cause is exposure to cold, mental emotion, an attack of ordinary coryza, and climatic causes. There are regions of country where persons with a predisposition to asthma nearly altogether escape. I have heard asthmatic individuals say that when they crossed a certain line of longitude, they enjoyed exemption from the paroxysms.

Asthma is more common to males than to females, the proportion being as two to one. As regards the period of

life an analysis of forty-seven cases shows the following results: In the first year of life, nine cases; from one to ten, ten cases; from ten to twenty, eight cases; twenty to thirty, seven cases; thirty to forty, six cases; from forty to fifty, three cases, and from fifty to sixty, four cases.

Diagnosis.—The diagnosis is not difficult, except in the case of very young children. In them it needs to be distinguished from capillary bronchitis.

The gradual invasion, the rapidity and feebleness of the pulse, the rapid respiration, and pallor and lividity of the face characteristic of capillary bronchitis will serve to discriminate between them.

Prognosis.—"Asthma," says one author, "never kills, or at least I have never seen a case in which a paroxysm proved fatal. When a patient dies from this disease, he does so in consequence of the organic changes in the heart and lungs which have resulted from it. If the patient is young, the chest sound, the attacks short, the intervals long, if there is no permanent shortness of breath, no cough or expectoration, if the attacks are becoming milder and at longer intervals, and if the exciting cause is clear and can be obviated, then the prognosis is favorable. If the patient is old, the lungs diseased, the attacks frequent and severe, the breathing never quite free, the coughing and expectoration constant, the disease apparently gaining ground and the exciting cause unknown or irremediable, then we must give an unfavorable opinion of the case." I quote from Dr. Salter. It does not require much wisdom to come to the same conclusions. The fact is that in the old the disease is incurable, in the young *it may* be cured. Getting away from the exciting cause is the best remedy. In many cases the paroxysms cease or become much less frequent with advancing years.

Treatment.—This aims to control and shorten the paroxysms, and to prevent their recurrence. No course of treatment can boast of many cures of this disease. The most that can be done in the large majority of cases is to afford temporary relief, and to lengthen the intervals between the paroxysms. I confess that in my own case I am doubtful whether in many instances I have shortened the attacks by the administration of remedies at the time of the paroxysms. There are many remedies in common use as palliatives, such as *Nitrate of Potash*, *Tobacco*, *Stramonium*, *Opium*. The first three are used by smoking them in a clay pipe, or in the case of the *Nitrate*, paper is saturated with it

and smoked. They give relief at one time, at another fail. The remedies we use are *Chamomilla*, *Arsenicum*, *Pulsatilla*, *Ipecac*, *Moschus*, *Lobelia inflata*, *Pulmo vulpis*. A physician is not often consulted in this disease. Those afflicted use those medicines which experience has shown to be most useful in their individual cases, or resort to some one of the many nostrums advertised as certain to promptly relieve and likely to cure. I relieved one patient by the use of *Chamomilla*. The attacks came on in the summer, and resembled those of hay asthma. Occurring in the latter part of June, I was led to believe that the exciting cause was emanations from a species of *Chamomilla*, which was in flower at that time. The cure seems to be a permanent one. In other cases the remedy is indicated when the exciting cause is a fit of passion, and especially in hysterical patients.

It is a common practice in some countries to smoke ARSENIC for asthma. Relief is speedily attained in many instances. It may be given for the following symptoms: feelings of lassitude and debility, difficult breathing with strong sensation of suffocation, irregular throbbings of the heart, nausea, burning pain in the stomach, face pale or bluish.

PULSATILLA is indicated more from temperament than from any special symptoms. I have very little confidence in its efficacy.

IPECAC is indicated when the paroxysms are caused by irritating vapors, attended by dry spasmodic cough, violent constriction of throat and chest, sense of suffocation, no expectoration though the chest seems full (this last characteristic), nausea, sensation as though inhaling dust.

MOSCHUS may be used for hysterical or hypochondriacal patients with dry cough, suffocative constriction of the chest, and a sudden sensation as if the breath were stopped in the larynx. This last symptom from Allen.

LOBELIA INFLATA has promptly relieved asthma in many instances. It is extensively used by the Eclectic school. Its use is recommended when the paroxysms are excited by excessive dampness, accompanied by a prickly sensation over the body, cold sweat, nausea, constriction of chest, sense of prostration.

PULMO VULPIS.—This remedy has been highly recommended in asthma of old people. I am unaware of any provings of it, and the recommendation is based on clinical experience. Its administration in a very obstinate case in my own practice was followed by prompt relief. For six months afterwards there was no recurrence of the paroxysms, which prior

to the use of the medicine had recurred every four or five weeks. The patient was sixty-seven years old.

The inhalation of CHLOROFORM gives great and almost immediate relief. Of course it must be used with great precaution, with a due knowledge of the conditions in which it is admissible. It is not safe to trust its administration, however, to the patient or his friends. It acts by controlling the spasm of the muscular fibers.

The treatment of asthma is seldom a source of satisfaction to the physician, and as seldom satisfactory to the patient. You will find that it will try your patience, and your patient's patience.

LARYNGISMUS.

(*Synonyms*, ASTHMA THYMICUM, ASTHMA OF MILLAR, SPASMUS GLOTTIDIS, LARYNGISMUS STRIDULUS, CROWING DISEASE OF CHILDREN.)

This disease was first accurately described by Dr. John Millar, in 1769, from whom it derives one of its names. This is a spasm of the glottis, affecting the respiration until the face becomes congested and livid. When relaxation takes place the breath is drawn in with a peculiar sonorousness.

It is a purely nervous affection, and comes from a peculiar susceptibility of the laryngeal muscles to spasm. It is incident to a certain age, as that of dentition or weaning. When the predisposition exists it may be excited by various causes, acting physically and mentally.

The paroxysms are brought on by a fit of anger accompanied by screaming, and is popularly known as holding the breath. The domestic remedy is slapping on the back, shaking or a sprinkling of cold water on the face. Death may ensue from a prolonged spasm or from a rapid succession of them.

In the adult it may occur from the pressure of a tumor on the laryngeal nerve, or from hysteria. Usually the paroxysms occur in the night, the child suddenly rouses with a cry, the respiration is suspended, the child struggles violently for breath; after an interval the spasm relaxes, and the air rushes into the trachea with a peculiar crowing sound. If the spasm continues too long the patient becomes insensible. Dr. Dunham recommends *Chlorine* as the best remedy. In a proving it produced the peculiar symptoms of this disease. It is prepared by making dilutions from a saturated solution of *Chlorine gas* in water; the first or second cent. dil. may be used. Other remedies are *Sambucus*, *Ignatia* and *Moschus*, all of which have symptoms analogous to this complaint.

CHAPTER VI.

LARYNGITIS.

ANATOMICAL CHARACTERISTICS—SYMPTOMS—PROGNOSIS—TREATMENT.
SUBACUTE AND CHRONIC LARYNGITIS—SYMPTOMS—CAUSATION—DIAG-
NOSIS—PROGNOSIS—TREATMENT.

ACUTE LARYNGITIS.

THE anatomical features of this disease are similar to those of acute bronchitis, and the treatment is essentially the same. It merits special attention in one respect. The larynx is composed of cartilages, the principal of which are the thyroid, cricoid, arytenoid and epiglottis. A narrow chink through the larynx serves for the passage of air to and from the lungs. This chink is bounded by the vocal chords, whose vibrations produce the voice. Near these chords is a quantity of loose areolar tissue. It is the effect of inflammation upon these chords, and the infiltration of the tissue, constituting œdema, which give an importance to this disease. If the disease only affects the mucous membrane of the larynx and vocal chords the symptoms are: some fever, hoarseness, stridulous cough, with expectoration of glairy mucus. If the inflammation is severe there is aphonia or loss of voice. As I said before, the treatment is the same as in acute bronchitis. But if there is, in addition to the inflammatory condition, infiltration of the areolar tissue, the disease assumes a different character, and the situation of the patient becomes one of great danger. In addition to the cough and hoarseness there is labored and difficult respiration. Inspiration is more difficult than expiration. There is a feeling of constriction in the throat, and a sense as of the presence of a foreign body there. Deglutition is difficult. The substances swallowed come in contact with the inflamed tissue, and add to the distress, and may even cause spasms of the muscles of the larynx. The suffering of the patient is intense. The distress is in-

creased in case of spasms of the muscles, and also by the efforts to cough and expectorate. The face and eyes are swollen; the countenance indicates distress and anxiety, and the skin, in extreme cases, assumes a livid hue. It is a rare disease. The prognosis in œdema is unfavorable, the patient dying by apnœa.

In addition to the appropriate medicines I recommend the inhalation of steam. The application of bags of pounded ice to the larynx may prove beneficial.

Under the head of *APIS* I find the following symptoms: Throat feels constricted as if a foreign body was lodged in it, sense of contraction and suffocation in the throat, difficult swallowing, sensation as of a rapid swelling of the lining membrane of the air-passages, hoarseness and difficulty of breathing, dyspnœa, it seemed impossible to breathe, great feeling of suffocation, intense sensation of suffocation, labored inspiration as in croup. In acute laryngitis I recommend *Belladonna* and *Spongia* as the best remedies.

The symptoms of *BELLADONNA* are: voice husky, dry cough, sensation as if the larynx were inflamed and swollen, sensation as if the larynx were constricted, voice hoarse, hoarseness amounting to aphonia, respiration retarded at times, whistling, rapid and oppressed respiration.

SPONGIA has these symptoms: burning and stinging in the throat, hoarseness and cough, feeling as of a plug in the larynx, larynx sensitive to the touch, dyspnœa.

Laryngitis may be acute, subacute or chronic. Subacute laryngitis is a common affection, mostly affecting adults. There is hoarseness, cough, and expectoration of thick yellow mucus, with very little fever. The treatment is much the same as in similar cases of subacute bronchitis.

CHRONIC LARYNGITIS.

This disease is met with frequently, and from its frequency, the great variety of its symptoms, the various causes inducing it and its obstinacy in resisting remedial measures, it becomes an important subject for consideration.

Chronic inflammation of the larynx leads to thickening of the mucous membrane and ulcerations more or less extensive. The vocal chords are frequently seriously affected and sometimes completely destroyed by the ulcerative process, entailing permanent loss of voice.

The anatomical changes are, a thickening of the mucous membrane, which is of a dark red color. The membrane is

covered with a thick, tenacious gray, or yellowish mucus; ulcers are frequently found, sometimes deep, at others superficial; sometimes fungoid growths of mucous follicles are observed.

In a large majority of cases, chronic laryngitis is associated with some other disease; probably the larger proportion is connected with pulmonary tuberculosis. We should suspect the presence of tubercle in the lungs of a patient affected with chronic laryngitis. It was formerly supposed that consumption of the lungs was the effect of chronic laryngitis, the disease traveling from the larynx to the lungs. Better means of determining the presence of tuberculous deposits in the lungs, have, however, shown that tubercles appear in the lungs prior to the development of the disease in the larynx.

The symptoms of chronic laryngitis are: *First.* Characteristic changes in the voice. It may run through the whole gamut of changes, from simple hoarseness to complete aphonia. It may be hoarse, husky, or stridulous. The changes in the voice do not always indicate the severity of the disease. Slight ulceration, if in the chords, may lead to loss of voice. The cough is modified as variously as the voice. The English adjectives have been ransacked to designate the subtle shades of sound. I might give a long list, but refrain. The cough is either hoarse, husky, or stridulous, as well as the voice; more or less frequent, and sometimes occurring in paroxysms. The expectoration varies also in quantity and consistency. It may be slight or abundant. It is sometimes streaked with blood; it is sometimes mucus, at others mucopurulent. Occasionally it is fetid. Generally, swallowing is attended with no inconvenience. In certain cases, however, much pain attends the act. In severe cases the passage of food or drink may excite spasms of the glottis, causing distressing dyspnoea and a return of liquids through the nose.

Causation.—It is seldom that chronic laryngitis is a primary affection. It is either associated with tubercular deposits in the lungs, or is one of the numerous sequences of syphilis. The pharynx is, however, more commonly invaded by syphilis, and the affection of the larynx generally follows invasion of the pharynx. Occasionally there is so much impediment to deglutition that death ensues from want of nutrition.

Diagnosis.—The diagnosis of chronic laryngitis is not difficult. The character of the voice and the location of the pain

and tenderness point to the character of the disease. The use of the laryngoscope greatly facilitates the diagnosis and also the nature and locations of the morbid changes within the larynx.

Prognosis.—As regards ultimate recovery, the prognosis must be unfavorable if the disease is associated with pulmonary tuberculosis. If uncomplicated or due to syphilitic taint, the chances of recovery are more promising. The disease, from whatever cause arising, is an obstinate and persistent one, and generally runs a protracted course. There is seldom any immediate danger, and the patient dies oftener of some intercurrent affection than of this.

Treatment.—The remedies are *Arsenicum*, *Nitric acid*, *Mezereum*, *Apis*, *Fluoric acid*, *Hepar sulphur*, *Iodium*, *Phosphorus*, *Spongia* and *Sulphur*. Many other remedies have more or less symptoms corresponding to various symptoms of the disease, and may be useful. When treating a case of this kind you will need make a careful study of your *materia medica* as well as a careful analysis of the symptoms you will meet with in your study of the case. An intimate knowledge of characteristics of drugs will be of great help in selecting the remedy. Drugs have particular affinities to certain parts and structures of the body, and these affinities are often to be considered in their administration.

ARSENICUM has the following symptoms: Sensitiveness to cold, hoarseness with burning sensation in the throat, cough occurring in paroxysms with scanty expectoration, dyspnoea.

NITRIC ACID is particularly indicated if the disease be of syphilitic origin, and attended with the following symptoms: Hoarseness, aggravated by talking, stinging pain in the larynx, dry, barking cough, expectoration of mucus streaked with blood (this indicates ulceration), offensive expectoration.

MEZEREUM is also indicated in the disease when arising from syphilis. Symptoms are husky voice, hoarse cough with sense of obstruction in the throat, expectoration streaked with blood.

FLUORIC ACID is recommended in ulcerations of the larynx, with pain, sensitiveness and irritability.

HEPAR SULPHUR is valuable in uncomplicated cases, and especially when the disease is induced by over use and straining of the voice. The following symptoms indicate its use: The larynx feels painful and sore when coughing or talking, hoarseness and aphonia, feeling of dryness in the larynx, sensitiveness of the larynx to cold air.

Iodine has the following symptoms: Hoarseness, soreness and constriction of the larynx, dry cough from tickling in the larynx, painful when pressed upon, pain confined to one spot. I recommend that *Iodine* should be administered in the form of vapor or spray, in conjunction with internal use.

PHOSPHORUS.—This is, I think, the most valuable remedy when associated with tubercular disease, or in the so-called laryngeal phthisis. The prominent symptoms are hoarseness and huskiness of the voice, or aphonia; the patient can only speak in a whisper. I have afforded marked relief with this remedy in several cases of complete loss of voice. It is highly recommended in the hoarseness of public speakers, especially in clergymen. Its symptoms are dryness, roughness and soreness of the larynx, hoarseness, aphonia, wheezing inspirations, larynx feels as if lined with fur, cough with expectoration of purulent mucus, slight fever, with progressive emaciation.

SPONGIA is more particularly indicated if the cough and breathing are stridulous or croupy.

Hahnemann would recommend SULPHUR in cases of this disease following suppressed eruptions, especially itch. Its pathogenesis embraces the following symptoms, which certainly indicate its use in laryngitis: Voice rough and hoarse, aphonia, talking fatigues, dry, hoarse cough, cough in the evening.

To sum up: *Phosphorus*, *Nitric acid*, *Hepar sulphur* and *Arsenicum* have with me proved most efficacious in this disease. *Merc. binoidide* I have also used.

CHAPTER VII.

PERTUSSIS, CROUP, PULMONARY HEMOR-
RHAGE.

DEFINITION — SYMPTOMS — COMPLICATIONS — CAUSATION — DIAGNOSIS —
PROGNOSIS—TREATMENT. CROUP—VARIETIES OF—SYMPTOMS—DIAG-
NOSIS—PROGNOSIS—TREATMENT. PULMONARY HEMORRHAGE—CAUSE
—DIAGNOSIS—PROGNOSIS—TREATMENT.

PERTUSSIS.

(*Synonym, Whooping-cough.*)

THIS is particularly a children's disease, nevertheless adults are occasionally affected. The anatomical characters are those common to bronchitis.

Symptoms.—It derives its names from certain characteristic symptoms, but these do not appear in the first stage of the disease. The primary symptoms are those of ordinary coryza and bronchitis. In other words, the symptoms in the first stage are those of a common cold. But in pertussis the cough does not abate. It becomes more frequent and severe. After a period varying from three or four days to two weeks the cough assumes its peculiar paroxysmal character. There is often slight fever. After the cough has assumed this character the patient has usually some premonition of an impending paroxysm. The countenance assumes an anxious appearance. The sensations are those of constriction, and an irritation or titillation in the larynx and trachea. The paroxysm consists of several violent expiratory efforts, succeeded by a labored wheezing inspiration, giving rise to a crowing sound, which is owing to spasm of the glottis. Then another series of the expiratory efforts, again followed by the inspiration. These continue until the paroxysm ends. At the end the patient raises a quantity of tenacious white mucus. During the paroxysm the patient shows great anxiety

and restlessness. The contraction of the lungs during the acts of coughing interrupts not only the breathing but the circulation through the lungs, so that blood accumulates in the right side of the heart. These effects are shown by congestion, and blueness of the face, and fullness of the cervical veins. For a period after the cessation of the paroxysm the child is listless and exhausted, but soon resumes his habitual appearance.

The paroxysms differ widely in duration and severity, and the distress and consequent exhaustion also vary in proportion to their severity. Vomiting, bleeding from the nose, vomiting of blood and effusion of blood under the conjunctiva follow the severe paroxysms. Hernia, rupture of air-cells, and also dilatation, are occasional effects. The attacks occur oftener in the night than in the day-time. The course of the disease is seldom under six weeks, and it may be protracted to two or three months. It usually reaches its height in three or four weeks, and, in favorable cases, then begins to subside. The general health of the patient, aside from complications, will depend upon the frequency and severity of the paroxysms, and the incidental effects, as before mentioned.

Anæmia may be induced from the loss of blood incident to the nasal hemorrhages. The patient may be exhausted by the frequent and protracted efforts of coughing. Vomiting may interfere seriously with proper nutrition.

Various complications may occur in the course of this disease, as bronchitis, capillary bronchitis, pneumonia, and pleuritis with effusion. In young children convulsions may occur, especially if the disease is during the period of dentition. In one case of my own the disease terminated in well defined tuberculosis of the lungs.

Causation.—Whooping-cough is an endemic and infectious disease. It is probably propagated by some miasm generated in the persons affected. Some authors doubt its infectious nature because many who are exposed escape. This is true to a greater or less extent with other infectious and contagious diseases. All are liable to contract it, and the large majority do.

Diagnosis.—Its diagnosis is very easy except in very mild cases.

Prognosis.—Whooping-cough uncomplicated with other affections is rarely fatal. Yet as we are never certain of escape from complications, our prognosis in individual cases should be guarded. I should not like to promise recovery in

any one case. Yet the general opinion may be favorable. An *if* is a very convenient expression in giving our opinion in this protracted disease. A fatal result is generally due to the complications I have mentioned; namely, capillary bronchitis, pneumonia, pleuritis and convulsions. A large percentage of deaths of very young children are from convulsions occurring during the course of the disease.

Treatment.—At one time Hahnemann declared *Drosera* to be a specific for whooping-cough, but few if any claim it to be such at the present day. The remedies most used are *Drosera*, *Cuprum met.*, *Corallium rubrum*, *Tartar emetic*, *Capsicum*, *Belladonna*, *Ipecac*.

Teste in his work on the Diseases of Children highly recommends *Corallium rubrum*, and I think I have derived much benefit from its use. Bæhr contends that *Cuprum met.* is an antidote to the miasm generating the disease. If it is, it ought to prove prophylactic.

BELLADONNA is a valuable remedy in the first stage, but its use after that time is of doubtful value. I am convinced that remedial agents are chiefly valuable in the complications which arise in the course of the disease. Simple uncomplicated whooping-cough runs a pretty well defined course. Remedies in the simple form of the disease mitigate the severity of the paroxysms, but I doubt if they cut it short to any appreciable extent. The remedies detailed under the head of bronchitis, pneumonia and pleuritis, are applicable to a corresponding group of symptoms in whooping-cough.

Several years ago it was asserted that children living near gas houses were either exempt from the disease, or had it in a very mild form. The effects were attributed to some of the products formed in the manufacture of gas. Many persons carried children affected with the disease to the gas works, and it was claimed that they were benefited thereby. *Carbolic acid* has been also recommended as a valuable remedy. Hygienic measures form an important part of the treatment. Out door life is advisable if the season is suitable. The diet should be nutritious but simple. If there is much vomiting, small quantities of food should be given often, and soon after a paroxysm. Change of air is frequently beneficial. If bleeding occurs often, it should be controlled by appropriate means.

CROUP.

Modern nosologists do not use the word croup, and doubt the propriety of the old way of describing two varieties of

the disease under the names of membranous or true croup, and spasmodic or false croup. The one is characterized by the exudation of plastic lymph upon the mucous coat of the larynx and trachea, the other is due to spasm of the glottis and to swelling of the mucous membrane of the larynx.

Ware, in his treatise on croup, recognizes four varieties; namely, membranous, inflammatory, catarrhal and spasmodic croup. The first he says is true croup, the others false croup. Trousseau makes no distinction between membranous croup and diphtheritic croup, regarding them both only as varieties of the same disease. Flint calls membranous croup laryngitis with exudation, and makes a distinction between this and diphtheritic croup, but considers them one disease as regards treatment.

The invasion of false croup is generally sudden. The patient may have suffered from a cold for some days, or have been in perfect health. The attack usually comes on in the night. There is hoarse barking, clanging cough, stridulous prolonged inspiration, husky voice, distress and restlessness. The pulse is somewhat accelerated, but the temperature is nearly normal. There is a tendency to exacerbations for several nights in succession, the patient being much better through the day.

Treatment of false croup.—*ACONITE* and *SPONGIA* in alternation every fifteen or thirty minutes, will in the large majority of cases promptly relieve the patient. When relief is obtained the medicines should be given at increasing intervals for a day or two. Wet compresses to the throat and chest are beneficial, and also inhalation of steam. A very good way to administer this is to drop heated stones or bricks into a vessel of hot water, and conduct the steam to the patient through a funnel made of a newspaper.

Böeninghausen's treatment of croup was unique to say the least of it. He gave five powders. The first and second of *Aconite*, 200, an hour apart; the third of *Hepar sulphuris*, 200; the fourth of *Spongia*, 200; the fifth *Hepar sulphuris*, 200. He claimed that it was seldom necessary to use more than the first and second, but in stubborn cases he administered the others.

Wolf recommends one dose of *Thuya*, 200, afterwards *Aconite* from the 2d to the 200th. He also recommends *Apis*, as he does for all diseases.

Teste in his treatise on Diseases of Children, asserts that *Ipecac* and *Bryonia*, given in alternation will promptly cure croup.

For catarrhal croup I agree with him, as I have used these remedies with marked benefit in croup preceded by acute catarrh.

Dr. Holcomb, of New Orleans, says that he rarely loses a case of croup. His treatment is a cold water compress to the throat and chest, and *Aconite* and *Spongia* in rapid alternation. Doubtless most of his success has been achieved in the treatment of false croup, for I am confident no such results can follow treatment of membranous croup.

MEMBRANOUS CROUP.

Symptoms.—The invasion of membranous croup is more gradual. The disease is preceded for two or three days by slight fever, catarrh, and some hoarseness. There is also occasionally a dry, husky cough. The symptoms in the precursory stage are much like those of a common cold, and seldom excite alarm for the condition of the patient. After two or three days symptoms peculiar to croup are developed; the cough has the harsh, brazen, clanging sound; inspiration and expiration become stridulous, with dyspnoea gradually increasing in severity. The fever increases, the pulse becomes small and quick; the voice becomes husky and weak, and in extreme cases is suppressed; there is usually thirst and restlessness; the head is thrown back, the face congested, the countenance expressing great anxiety and distress. Occasionally masses of membrane are coughed up, with more or less relief to the patient. At the last the cough ceases, the countenance becomes livid, the extremities cold, the pulse feeble and fluctuating, the sufferer lapses into unconsciousness, and death ensues from apnoea and coma. There are remissions in the course of the disease, lasting a few hours, deceitful calms which give hope of recovery. The disease lasts from four to six days. In young children the attack sometimes proves fatal in one or two days, and occasionally it runs eight or ten days. Recovery takes place from detachment and throwing off the membrane by a sort of suppurative process beneath it.

Diagnosis.—It is important to distinguish between membranous and false croup, inasmuch as the former is a much more dangerous disease, and more amenable to treatment in its earlier stages. The differential points are: Membranous croup is more slowly developed, while false croup comes on suddenly. Membranous croup has fever and accelerated pulse; false croup has little or none. Stridulous breathing

in membranous croup is common to both inspiration and expiration; in false croup it is more marked in inspiration. In membranous croup there is contraction of the lower part of the chest, and a sinking in of the epigastrium, and also of the soft parts above the clavicle and sternum, which is not as noticeable in false croup. Membranous is not liable to be confounded with diphtheritic croup, for in the latter the exudation first appears upon the fauces; it has an offensive odor, and the precursory symptoms are widely different.

Prognosis.—The disease is very fatal, and the prognosis is unfavorable. Of twenty-two cases recorded by one writer, nineteen died.

Causation.—The causation is obscure; debility and an impoverished constitution from bad sanitary surroundings are predisposing causes, and exposure to cold one of the most frequent exciting causes.

Treatment.—The remedies are local and general. Among the local remedies are *inhalations of Steam, vapor of Lime, Iodine and Bromine*.

Inhalations of STEAM may be administered by hot stones and bricks in hot water, or the entire atmosphere of the room may be charged with it.

Lumps of QUICKLIME may be placed in a bucket of hot water, and so placed that the patient may inhale the vapor.

A teaspoonful of IODINE, or half a teaspoonful of BROMINE may be put in a pint of hot water and held a short distance from the patient. The effect of these applications is to soften the membrane and facilitate its expulsion. The general remedies are *Spongia, Bichromate of Potash, Iodine and Bromine*. Cowperthwaite's *Materia Medica* gives the following laryngeal symptoms of these remedies:

SPONGIA.—Dry, barking, hollow, croupy cough, anxious, whistling breathing, dyspnœa, hoarseness.

KALI BICHO.—Hoarse voice, cough hoarse, metallic, false membrane difficult to detach, coughs up fibrinous casts, dyspnœa.

IODINE.—Hoarseness, false membrane, barking cough, difficult respiration.

BROMINE.—Constriction of throat, hoarse voice, loss of voice, paroxysms of suffocation.

It will be seen that *Kali bichro.* and *Iodine* have symptoms more analogous to those of croup than the others.

There are not many drugs which produce false membranes or exudations upon mucous surfaces. Among the few are

Bromine, Iodine, Kali bichro. and the *Biniiodide* and *Protiodide of Mercury*. The remedial action of the last two seems to be confined to diphtheritic exudation.

In Allen's *Materia Medica* I find the following group of symptoms under *Kali bichro.*: "Symptoms approach gradually, at first slight difficulty of breathing, and shrill whistling sound during inspiration, voice hoarse, deglutition painful, larynx red and covered with false membrane."

I have succeeded better with *Kali bichro.* than with any other remedy.

A physician of good repute told me that he had cured several cases of membranous croup with the second dec. dil. of *Bromine* freshly prepared—a dose every half hour until expulsion of membrane.

The question arises whether, as a final resort, tracheotomy shall be performed. Trousseau is an ardent advocate of it, and many other distinguished physicians recommend it. Records of 1,249 cases of the operation have been collected, of which 294 were successful. One difficulty in the way of success is that the operation is delayed so long that the patient is nearly moribund when it is attempted. If the physician is satisfied that the patient will die before the membrane can be detached, and that an operation affords the best chance for life, it is his duty to perform it. Complications of capillary bronchitis or pneumoſia preclude the operation.

PULMONARY HEMORRHAGE.

The hemorrhage called hæmoptysis, or spitting of blood, may proceed from various sources, as from the posterior nares, pharynx, stomach or lungs. Pulmonary hemorrhage occurs under the following circumstances: *First*, from the bronchial tubes. *Second*, from the rupture of blood vessels traversing tubercular cavities, occasioning at times considerable flow of blood. *Third*, the blood fills the air-cells, and may escape into the adjacent areolar tissue, giving rise to what is called pulmonary apoplexy. In all three there is hæmoptysis or spitting of blood. In the first variety the blood probably escapes through the capillaries of the bronchial tubes, as no ulcerations are found after death.

It is important that you should be able to determine the source of blood ejected from the mouth. One point of distinction is its color, another is the method of its ejection. If it comes from the stomach it is vomited. It is dark, and has an acid reaction, while pure blood is alkaline. If it

comes from the posterior nares it is in the form of dark lumps, thrown out by the act of hawking. If it comes from the mouth and fauces it is also dark, and the source may generally be discovered by examination. When it comes from the air-passages it is generally raised by easy coughing, the blood rising into the trachea and larynx and expelled thence without much effort. Generally it is liquid, of a bright scarlet color, and full of air-bubbles. Occasionally it escapes so slowly into the bronchial tubes that it coagulates, and assumes a dark color before it is expectorated.

The amount varies much in different cases, from a few drops to a pint, or even more. The bleeding may last from a few minutes to several days. Occasionally the flow of blood is so rapid as to escape by the nose as well as from the mouth, and causes death by suffocation, or protracted syncope.

Tuberculosis may be predicated in nearly every case of pulmonary hemorrhage, but it is not always co-existent. In 386 cases 62 recovered from the hemorrhage and afterward had no symptoms of tuberculosis. Hemorrhage may result from obstruction at the valves of the heart. It may also occur from scurvy and purpura hemorrhagica, or from prolonged muscular exertion. I have seen one case of hemorrhage from the last cause where recovery took place without any development of consumption.

Pulmonary hemorrhage, especially when proceeding from the bronchial membrane, is not an immediate source of danger. I have seen many cases of it, but have never known death to ensue in consequence of it. Its presence occasions great alarm and apprehension in the minds of the patient and friends. We can generally assure them that there is no danger to life from the bleeding. It is doubtful if it even tends to hasten the development of tubercular disease. Marcy mentions the case of a gentleman, who died at the age of ninety, who was subject to frequent hemorrhages from the lungs for more than forty years.

The remedies are *Aconite*, *Arnica*, *Ipecac*, *Hamamelis*, *Belladonna*.

ACONITE, fullness and congestion of the lungs, anxiety and fear of death.

ARNICA, when the hemorrhage is in consequence of a mechanical injury, as a fall or blow on the chest, or when it is the result of strong physical effort. Expectoration is dark red.

IPECAC is a valuable remedy. It is indicated in hemor-

rhage of bright red blood, taste of blood in the mouth, constant hawking.

Hamamelis.—I have used *Hamamelis* with good results, especially when the hemorrhage has been profuse and easily expectorated. I was led to its use from seeing its efficacy in hemorrhoids.

Belladonna is one of the principal remedies. It is indicated in phethoric individuals with a tendency to hyperæmia of the brain, and also in cases of vicarious hemorrhage.

Hale, in his *New Remedies*, extols *Erigeron* and *Trillium*.

In extravasation of blood into the pulmonary tissue the danger is in proportion to the amount extravasated. If the amount is small it may be gradually removed by absorption and expectoration, and complete recovery follow. If, however, the amount is large the termination is usually fatal, and death soon ensues. If extensive effusion takes place the pulse is rapid, there is a sense of oppression in the chest, the face is pallid, the skin is covered with cold sweat, and fatal syncope ensues. To arrest the effusion the same remedies are indicated as in the other forms of hemorrhage.

CHAPTER VIII.

COUGH AND NERVOUS APHONIA.

COUGH.—TREATMENT. NERVOUS APHONIA.—CAUSE—DIAGNOSIS—PROGNOSIS—TREATMENT.

COUGH.

Treatment.—Cough is generally but a symptom of some thoracic lesion and is to be considered in connection with it; yet often the physician is called to prescribe where cough constitutes the chief annoyance, the health and vigor in other respects being good.

With the view of meeting this condition I have prepared a list of the principal remedies for cough, with the characteristic indications for each.

The remedies are: *Belladonna*, *Bryonia*, *Cactus*, *Cauticum*, *Chamomilla*, *Cina*, *Cocculus*, *Conium*, *Cuprum met.*, *Drosera*, *Hepar sulphur*, *Hyoscyamus*, *Ignatia*, *Ipecac*, *Kali bichro.*, *Lycopodium*, *Nux vom.*, *Phosphorus*, *Rumex*, *Sanguinaria*, *Spongia*, *Sulphur* and *Tartar emetic*.

BELLADONNA has the following symptoms: Voice husky and hoarse with dry cough from dryness of the larynx. Sensation as if the larynx were inflamed, swollen and constricted. Short, dry cough from tickling in the larynx. Dry, spasmodic or hollow, hoarse cough, worse at night. Violent cough during sleep, with grinding of the teeth. Voice weakened even to complete aphonia. Barking cough, waking suddenly with pain in the larynx and threatened suffocation.

BRYONIA.—Dry cough, as if coming from the stomach; with sticking pains under sternum. Coming into a warm room from cold air excites a cough. Cough from a constant crawling upward in the throat, followed by expectoration of inucus. Rough, hoarse cough, with feeling of constriction of the chest; voice rough and hoarse.

CACTUS.—Spasmodic cough, with copious mucous expectoration. Cough with thick, yellow sputa, like boiled starch.

Catarrhal cough with much viscid expectoration. Cough with oppression of breathing, as from a great weight on the chest. Cough with sensation of constriction of chest, as if bound by a band.

CAUSTICUM.—Dry, hollow cough, caused by crawling in the larynx or by stooping to pick up anything. Cough always caused by speaking or reading aloud. Cough wakes from sleeping evening or morning; during the day little or no cough. The laryngeal muscles refuse to act; cannot speak a loud word. Cough violent, hollow, at times dry, with pain in right chest. Cough with hoarseness and rawness in the throat in the morning. Cough relieved by swallowing cold water.

CHAMOMILLA.—Cough excited by a plug of mucus in the bronchial tubes, which is detached with difficulty.

CINA.—Gagging cough in morning after rising. Hoarse, gagging cough in evening. Rattling cough in paroxysms. Short, interrupted breathing. Expectoration whitish, slimy, almost tasteless, detached with difficulty. Hacking cough, followed immediately by an effort to swallow something.

COCULUS.—Fatiguing cough from oppression of the chest. Cough with cramps in chest; also hysterical obstruction of breath at pit of throat as from constriction.

CONIUM.—Dry cough, very much aggravated by lying down; in the beginning many shocks of coughing, as if vomiting would result. Constant severe cough in the evening on going to sleep. A dry spot in the larynx where there is a crawling, and almost a constant irritation to dry cough. Violent, dry, spasmodic cough, when first lying down, during day or night. Cough with inability to expectorate.

CUPRUM MET.—Dry cough, with interrupted, almost suppressed respiration. Cough dry, suffocative, worse at night. Very fatiguing cough, with discharge of bloody mucus from the nose. Hard, dry cough and night sweats. Cough with spasmodic attacks of dyspnoea; the chest feels constricted; respiration is difficult even to suffocation. Dark colored, purulent expectoration. Constant hoarseness so that he cannot speak a word. Spasmodic cough followed by convulsions in children.

DROSERA.—Spasmodic, dry cough. The paroxysms of cough follow each other so violently that the patient is scarcely able to get his breath. Rough, scraping, dry sensation deep in the fauces and in soft palate, causing a hacking cough, with a yellow mucous expectoration and hoarseness,

the voice having a deep bass sound, together with oppression of the chest, as if the air were withheld on talking and coughing so that the breath cannot be expired.

HEPAR SULPHUR.—Paroxysms of cough, as from taking cold; with excessive sensitiveness of the nervous system, as soon as only the slightest portion of the body becomes cold. Cough almost uninterrupted from tickling in the upper part of left side of throat, worse when talking or stooping, constantly getting worse till late in the evening, and then suddenly ceasing. Scraping, rough cough. Incessant dry, hacking cough at night after going to bed. Weakness of the organs of speech and of the chest so that one cannot speak aloud. *Dyspnœa*.

HYOSCYAMUS.—Dry, spasmodic cough at night; worse on lying down; has to sit up when it disappears. During cough, spasms of the larynx; pain in epigastrium, and hypochondria. A dry, tickling, hacking cough, which seems to come from the air-passages. Frequent cough at night, which always wakes him, after which he again falls asleep. Great roughness and hoarseness of the voice. Greenish expectoration with the cough. *Nervous, nocturnal cough*.

IGNATIA.—Very short, frequently very dry cough, the provocation to which is in the pit of throat, as from inspired feathery dust, not relieved by coughing, but more excited the more he allows himself to cough, especially worse towards evening. Inspiration is impeded as from a load lying on the chest; expectoration easy. Yellow expectoration from the chest, of the odor and taste of old catarrh. Subdued, low voice; is unable to talk aloud.

IPECAC.—Cough with rattling noises in the air-passages during respiration. Cough causing inclination to vomit without nausea. Suffocating cough, whereby the child becomes quite stiff, and livid in the face. Suffocating, extremely exhausting cough, with coldness of the extremities. Cough with expectoration of blood. Easy cough, with a sensation as though the lungs were filled with dust. *Dyspnœa*; attended with wheezing and great weight and anxiety about the præcordia.

KALI BICHO.—Dry cough with rough, hoarse voice. Cough with expectoration of very tough, stringy mucus. Hoarseness and accumulation of mucus in the larynx in the morning. Cough (with *dyspnœa*) especially in morning, with expectoration of white mucus, which can be drawn out in strings. Cough with expectoration of yellowish, green, tough matter. Frequent hawking and expectoration of te-

nacious, yellowish white mucus, which accumulates in large quantities in the air-passages, followed by relief of the hoarseness. Dyspnœa, especially in the morning.

LYCOPODIUM.—Cough, dry, day and night, with painfulness in region of stomach in evening before going to sleep, from tickling in the larynx, as from a feather; as from sulphur fumes in the larynx. Night cough, affecting the stomach and diaphragm mostly before sunset. Cough very overpowering in the evening before going to sleep, as if the larynx were touched with a feather; with scanty expectoration. Gray, salt-tasting expectoration. Expectoration of thick, yellow mucus from the bronchi in the morning. Dyspnœa as if the chest were constricted by cramps.

NUX VOM.—Hoarseness, with roughness and scraping in the throat provoking a cough. Dry, fatiguing cough from midnight till daybreak; in the evening after lying down, or very early in the morning. Violent cough before rising in the morning, with expectoration of clotted blood, and soreness in the chest. Roughness, rawness and scraping in the chest. Cough that causes headache, as if the skull would burst. Cough worse after eating or drinking; after mental or physical exertion. Cough with sweetish expectoration.

PHOSPHORUS.—Rawness in the larynx and trachea, with frequent hacking cough and hawking. Irritability in the lower portion of the trachea, with suffocative pressure in upper part of chest. Cough with hoarseness and roughness of the voice. Voice nearly lost, with great prostration. Violent, dry cough on reading aloud. Frequent dry cough, with scanty expectoration; with catarrhal symptoms in the posterior and lower portions of both lungs, especially of the right side. Cough with expectoration of tenacious, purulent mucus. Cough in the morning after rising, with expectoration of transparent mucus. Dry cough, with complete aphonia.

RUMEX.—Dry, incessant, fatiguing cough caused by tickling in throat-pit, aggravated by pressure, talking, and especially by inspiring cool air, and in the evening after lying down. Sensation of soreness and hoarseness in the larynx and behind the sternum, with rough cough. Pain in larynx, mostly on left side. Much tough mucus in the larynx, with a constant desire to hawk and raise it, but without relief. Violent inclination to cough in the larynx while eating. Voice hoarse.

SANGUINARIA.—Dry, hacking cough, caused by tickling in the throat-pit, with dryness of throat and crawling sensation,

extending down behind the sternum. Wheezing, whistling cough; metallic-sounding, stridulous breathing. A dry cough awakening him from sleep, which did not cease until he sat upright in bed and flatus was discharged both upward and downward. Aphonia with swelling of the throat. Cough with headache.

SPONGIA.—Cough with sensation of obstruction in the larynx, as from a plug, with impeded respiration. Incessant cough from low down in the chest where there is a sore pain. Cough dry, barking, hollow, croupy, or wheezing and asthmatic. Dry cough day and night, with burning in the chest. Cough better after eating or drinking. Dry cough following whooping-cough. Burning, sore pain in chest and bronchi, with rawness in the throat when coughing. Dyspnœa and great weakness in chest so she could hardly talk after a slight exercise. Expectoration of saltish-tasting mucus.

SULPHUR.—Dry cough in the evening in bed or waking one from sleep at night. Cough caused by rawness in larynx. Weakness of the chest when talking. Stitches in chest extending to back or to left scapula. Dry cough with hoarseness, dryness of the throat and fluent coryza, with discharge of clear water. Voice rough and hoarse, especially mornings. Aphonia. Dyspnœa, oppression and anxiety.

TARTAR. EMETIC.—Cough with much rattling of mucus in the chest. Chest seems full of phlegm without ability to expectorate. Coughing and gaping consecutively, particularly in children, with crying, or dozing, or twitching in face. Sputa white, frothy; expectoration abundant. Cough with easy expectoration of a great deal of sweetish, transparent mucus. Suffocated and oppressed, cannot get air, has to sit up in bed. Shortness of breath from suppressed expectoration. Oppression of breathing relieved by expectoration.

NERVOUS APHONIA.

Cause.—Aphonia, or a loss of voice, is, in the majority of instances, due to affections of the larynx and vocal chords. Its treatment has been considered when speaking of chronic laryngitis. But there is one variety of aphonia which is not due to any organic lesion, but is purely functional. This variety is called nervous aphonia. The loss of voice is caused by paralysis of the spinal accessory nerve, or from pressure of some kind of tumor upon the recurrent laryngeal nerve.

This affection is generally met with in hysterical females.

When met with in the male it will probably be found to be induced from pressure upon a laryngeal nerve.

Diagnosis.—The diagnosis between nervous aphonia and aphonia due to laryngeal disease lies in the character of the whisper. That of laryngitis is husky and stridulous, of nervous aphonia soft and clear.

In addition to the character of the whisper we have in aphonia of laryngitis other symptoms, such as cough, tenderness and expectoration.

The laryngoscope will also confirm the diagnosis, by showing in nervous aphonia absence of lesions of the larynx.

Prognosis.—Recovery is probable when the loss of voice is purely nervous, and not caused by pressure of a tumor on the nerves.

Sometimes the recovery is sudden and complete, at other times it is delayed for a greater or less period.

Treatment should be directed to the improvement of the general health, or to the removal of the exciting cause.

When due to paralysis great benefit will often be derived from the use of the electric current.

The remedies which promise the best results are *Nux moschata*, *Opium*, *Platina*, *Sepia*, *Rhus* and *Stramonium*.

NUX MOSCHATA.—Aphonia from hysteria, with frequent and sudden change of mental emotions, enormous distension of abdomen after meals; dryness of mouth and tongue after sleeping.

OPIUM.—Aphonia induced by fright.

PLATINA.—Hysterical aphonia with self-exaltation, nymphomania, abundant menstruation, dark and thick; induration of uterus, sexual excitement culminating in hysteria.

SEPIA.—Aphonia occurring during the menopause.

RHUS.—In paralytic aphonia induced by exposure to wet and cold.

STRAMONIUM.—Hysterical aphonia, with strange and absurd fancies; constant, eager whispering.

PULMONARY TUBERCULOSIS.

HISTORY—ANATOMICAL CHARACTERS—SYMPTOMS — CAUSATION—DIAGNOSIS—PROGNOSIS—EFFECTS OF CLIMATE ON—TREATMENT.

PULMONARY TUBERCULOSIS.

(*Synonyms*, PULMONARY CONSUMPTION, PHTHISIS.)

History.—We come now to the consideration of this most formidable, fatal and frequent disease, whose ravages frequently destroy whole families, one member perishing after another until all are gone, the fatal germs of which are transmitted from one generation to another, disappearing here in one branch, reappearing in another, but always sooner or later making its fatal impress known. It is the most fatal of all diseases, few surviving its attacks. Fourteen per cent of all deaths occurring during the year 1860, in the United States, were from this cause. In the New England States the deaths from consumption are twenty per cent of the whole number from all other causes combined. In the Western States the rate is much below; namely, between eleven and twelve per cent of the whole number of deaths. Still, in the West it is by far the most fatal of diseases, pneumonia ranking next in order of fatality. Statistics show that out of nine hundred and sixty-eight millions of people on the globe three millions die each year from phthisis.

Anatomical characters.—Some writers contend that pulmonary tuberculosis consists in the formation within the parenchyma of the lung of the gray, small tubercle, and that when the yellow is found the disease is chronic pneumonia. Others assert that the disease may be caused by the presence of either variety. However that may be, the symptoms to which they give rise are much the same in either case. These tu-

bercles or tuberculous masses are at first generally found at or near the apex of the lung, more frequently in the left than in the right. As the disease progresses they extend downward until they are diffused throughout the whole extent. In some cases their presence within the lung causes little, if any, irritation. They are, as it were, latent. Sooner or later they cause fever and inflammatory action in the surrounding tissues; bronchitis and inflammation of one or more lobules of the lung occur. Pleuritis to a greater or less extent often occurs in the course of the disease. In post-mortem examinations of persons who have died of phthisis, adhesions of the walls of the pleura are often found over portions of the lung which contain the tubercular masses. The presence of these tubercles after a time results in inflammation and softening of the tuberculous mass and a portion of the surrounding structure; the contents liquefy, become pus and are expectorated. In this manner cavities are formed in the lungs. New masses of tubercle in their turn soften and are discharged and the process may be repeated until a lobe or lobes is honey-combed with them. Pleuritis seems to be an effort of nature to guard against the danger of the softened tubercle breaking its way through the pleura and discharging the broken down liquefied mass into the cavity of the thorax. Nature sets up adhesive inflammation of the pleura and its opposite surfaces are glued together.

We may consider two stages to this disease. The first includes the time from the first development of the morbid product to its softening and consequent discharge. The second extends from the formation of cavities to the termination of the disease, either by death or recovery. The disease sometimes does not pass into the second stage; recovery takes place. The tuberculous matter may become absorbed, leaving in its place calcareous masses, as dissections have repeatedly shown. Recovery may also take place after the disease has passed into the second stage, but more seldom than in the first stage. The cavities are obliterated by a process of cicatrization, no new depositions of tubercle are made and health is re-established.

Symptoms.—One of the very first symptoms of this disease is emaciation. It is called progressive because it steadily though insidiously advances slowly day by day. With the emaciation the muscular strength diminishes and the countenance becomes pale. Few persons attribute the decline in flesh and strength to the right cause, and the disease may

have made serious inroads into the constitution before its real nature is suspected. Of the pulmonary symptoms the first to manifest itself is a cough. It is slight and infrequent, at first amounting to only a slight hack, and is dry. It is generally a little worse morning and evening. At first there is no expectoration, but after a time there is raised a glairy mucus, which gradually becomes more abundant and more solid and opaque. Pulmonary hemorrhage occurs occasionally at this stage of the disease. Until this occurs the patient is apt to flatter himself that he has only a cold, that it will subside in a few days and that he will be all right again. It is a striking characteristic of this disease that patients so easily delude themselves concerning its gravity and danger; they are always hopeful and anticipating speedy recovery. I think the disease would be much oftener cured would patients seek medical advice at the outset. There is no more dangerous thing to neglect than a persistent cough and emaciation without any apparent assignable cause. Pain is not a constant symptom in consumption. I have seen many patients who scarcely ever complained of pain. The most suffering was from more or less soreness in portions of the chest. In the beginning there may be sharp, lancinating pains, due to inflammatory action going on in the pleura by which adhesions are formed. The respirations are increased in frequency. This may not be noticed except after some unusual exertion, or after climbing stairs. These *three* symptoms are the most characteristic of the first stage of the disease, *emaciation*, *hacking cough* and *accelerated respiration* after exercise.

The pulse in the first stage is quickened, but not markedly so in cases that develop slowly.

If there is great and constant acceleration of the pulse from the outset of the disease it is liable to run a rapid course and develop the worst symptoms at an early date.

The fever in the first stage is sometimes of an intermittent type, the pulse is quicker in the afternoon, with a sensation of heat in the palms of the hands and soles of the feet; the cheeks also show an increase of warmth perceptible to the touch. Errors in diagnosis may be made in this stage, mistaking the affection for an attack of intermittent fever.

The appetite varies. Its loss or impairment is not a characteristic symptom, although in general there is a diminution of appetite. The appetite is what we call delicate; gross hearty food being repugnant to the patient. In women suppression of the menses generally occurs in the course of the disease. Its

suppression is supposed to be due to innutrition. One of the most favorable indications for recovery is the restoration of the menstrual function. The intellectual powers are seldom impaired. The mind generally remains clear to the last. Occasionally in the last stage there is slight delirium.

Hopefulness is a characteristic feature of the complaint. The patient is seldom desponding, but always looking forward for a favorable change and hailing every amelioration as the beginning of convalescence. I have been struck with this unquenchable hopefulness in patients who were so near the end that they could only articulate with difficulty the words expressing the belief that they were better.

The first glides into the second stage by imperceptible gradations. The cough is less of a hack and occurs when the sputa requires to be expectorated. Unless there is difficulty in raising the sputa the cough is not painful or distressing. The expectoration consists of pus, softened tubercle and mucus. It varies in appearance and in consistency. At times it is gray, in solid masses, and coheres in the vessel in roundish forms like a button; at other times it is in whitish gray masses, with ragged edges, looking like masses of cotton. Sometimes it is yellow, sometimes like boiled rice. Occasionally crumbling looking particles, like old cheese, are expectorated. These are portions of tubercle which have not liquefied. The quantity expectorated in 24 hours varies from a few ounces to as much as a quart. If a large quantity of matter is raised suddenly it denotes the opening of an abscess. The expectoration of a quantity of purulent matter in the morning also denotes the presence of abscesses in the lung.

The voice is usually not sensibly affected in pulmonary phthisis. Hoarseness, huskiness of the voice, or aphonia, indicate coincident laryngitis. The pulse is more rapid in the second stage. It may vary from 90 to 120, with marked exacerbations in the afternoon. Chills are a frequent symptom. They usually occur in the forenoon about 10 o'clock. Following the chills and fever are the night sweats, frequently very copious and exhausting to the patient. Another symptom, but not a constant one, is colliquative diarrhœa. It occurs from an extension of the disease to the mesenteric glands, or to general weakness of the digestive organs. With these three accompaniments of the disease—chills, night sweats and diarrhœa—emaciation makes rapid progress, which becomes painfully evident to the eye. In the last stage

cedema of the feet occurs, owing to the weakness of the circulation.

Various complications occur in the progress of the disease, such as peritonitis, meningitis, especially in children, disease of the liver, perineal abscess and consequent fistula. The formation of perineal abscess and consequent fistula are thought to retard the progress of the disease. A peculiarity attending phthisis is an incurvation and enlargement of the nails of the fingers. It is not always present, and is said to also attend some forms of heart disease. When it exists, however, it is an additional aid in making a diagnosis.

The duration of the disease is very variable. It may terminate fatally in a few weeks, assuming then the type known as acute phthisis, or quick, or galloping consumption, or it may run a slow course of one, two, or more years. It may remain quiescent for a long time and then suddenly spring into activity. It makes more rapid progress in the winter than in the summer. It is retarded by pregnancy.

Causation.—Many theories, widely diverse from each other, have been advanced concerning the origin of this disease. One argues that it is developed from pharyngitis. The collections of matter formed in the tonsils, and which are expectorated in small, hard pellets, are often mistaken for tubercles. They may be distinguished from tubercles by their greasy feel and fetid odor.

Another considers that phthisis is a sequence of chronic laryngitis, and that the disease travels downwards, affecting the lungs as tuberculosis. But the best authors contend that tuberculosis of the lungs is a pre-existent condition. Others advance the theory of inherited predisposition, and statistics have been laboriously collected to prove its truth. It is undoubtedly true that in many cases the children of consumptive parents are liable to the disease, but it is also true that numbers escape. It is also true that parents free from the disease may lose their children from it.

The conformation of the chest was supposed by some to be a causative agency. Individuals with thin, flat chests, were said to have a consumptive tendency, and it is true that many afflicted with consumption have this form of chest, but it is also true that many with contracted chests do not have consumption. Climate has certainly something to do with the development of the disease. It is much more frequent in certain parts of the country than in others. Warm and dry, or cold and dry regions, are less favorable to its development

than moist and warm, or moist and cold regions. A uniform temperature gives exemption more than a changeable one.

The liability to contract the disease varies with the age of the patient. The insurance companies consider that an applicant is comparatively free from liability to attack after attaining the age of 35, and generally reject the applicant younger than 35 if the family history does not show a pretty clear record as regards consumption.

The disease is most liable to be developed between the ages of 20 and 30, and the percentage of liability decreases thereafter in an increasing ratio.

Habits of life have much to do with the development of the disease. Out-door life is favorable to exemption. Indoor life and sedentary pursuits favor development. Pure air, nutritious digestible food, out-door life and active exercise conduce much to exemption. The reverse of these conditions often hasten its development.

From these statements we may conclude that the causation of this disease is still obscure. *Many* causes seem to combine to produce it.

We may say that it is the result of a certain diathesis of the system which in one case is inherited, in another acquired.

Is consumption contagious? — The question of the communicability of tuberculosis from constant association with consumptive patients has been often discussed and facts have been adduced, pro and con. On the one side the number contracting the disease after long contact with it is adduced in evidence of contagiousness, and on the other the infrequent occurrence of this event is urged as evidence against it. The general testimony is against. It is probable that fatigue from constant nursing the sick, want of fresh air, loss of sleep and anxiety, are exciting causes more active in inducing the disease than the emanations from the sick.

In an eminent medical journal of recent publication I found the following statement by a distinguished German physician: A consumptive man married a woman of healthy family. The man died and the woman was attacked with the disease, as was also her sister who resided in the house during the man's illness. The latter married a man of great strength and of sound family; he too was attacked, and also his sister's daughter who resided some time in the house. One of their children died of tubercular meningitis, two had signs of

pulmonary tubercle, one was free. The girl who served the first man's wife became tuberculous, went home and died. Her sister was infected by her. Both their parents had lived to a great age and tuberculosis had never before shown itself in the family. Possibly unfavorable hygienic conditions had something to do with these cases.

Diagnosis.—The cough, acceleration of pulse and respiration, the progressive emaciation, the hectic flush on the cheek, the daily exacerbations of fever taken in conjunction with the physical signs render the diagnosis tolerably certain. In nearly every case pulmonary tuberculosis manifests itself in the apex of one of the lungs; in the large majority of cases in the left lung. Percussion yields a dull sound, and if the tubercles are numerous a flat sound. Auscultation shows dullness of the respiratory murmur, and a peculiar break in the sound during inspiration. These two indications; namely, dullness and faintness of the murmur, in conjunction with the other symptoms, as emaciation, cough and slight fever, make us tolerably certain in our diagnosis. As the disease progresses the diagnosis becomes more positive. It is highly important that the physician be able to recognize the disease at the outset for the prospect of arresting its ravages is then much more favorable. But unfortunately this is seldom the case. The patient seldom calls for help until the disease has passed into the second stage. It is only a cold, and will soon pass away is the usual feeling.

As the presence of the tuberculous deposits begin to excite irritation of the adjacent tissues new sounds begin to be heard. If the irritation affects the bronchial mucous membrane, exciting circumscribed bronchitis, we have mucous or subcrepitant rales. If the air-vesicles are affected we hear the crepitant rale of circumscribed pneumonia. When a tuberculous deposit softens, liquefies and is expectorated leaving cavities in the lung, we have another class of sounds. Over the cavities we shall have tympanitic resonance, called the cracked pot sound, if the cavity is near the surface of the lung and amphoric resonance if deeper. Auscultation gives the cavernous respiration resembling the sound produced by blowing into the mouth of a bottle. If the tubercular deposits are very extensive we shall have bronchophony, bronchial respiration and pectoriloquy. All these sounds with the expectoration chills, fever, night sweats, and emaciation make the diagnosis no longer doubtful.

Prognosis.—The prognosis is unfavorable. Trousseau dismisses the matter in a very few words. “The prognosis is death.” Even at the first invasion of the disease the prognosis is unfavorable, and it becomes more and more so as it progresses. Nevertheless, we are warranted in entertaining a hope that by using all our resources, by a careful attention to diet, air and exercise, and the careful administration of medicines we may occasionally control the disease, or at least arrest its course for an indefinite time.

Treatment.—This includes hygienic precautions, as *ventilation, diet, exercise, clothing, change of climate, habits of life, occupation and medicines*. I put these last because without the first medicine can do but very little.

CHANGE OF CLIMATE.—Physicians are often asked, first if a change of climate is advisable, and if so, what localities promise the most benefit. Among the places of most frequent resort are Florida, Aikin, S. C., Texas and southern California, in low latitudes of this continent; Minnesota and Colorado in higher, and in the Atlantic, Cuba, the Bahamas, Bermudas, Azores and Maderia Islands. Minnesota is not so great a favorite now as formerly. Colorado and Florida receive the greater proportion of consumptive patients.

It cannot be said that any one place is to be preferred above all others. The locality that will benefit one patient will not benefit another. The age, the sex, the vigor, the habits, the power of endurance of heat and cold, and the progress of the disease are to be considered before determining the point of residence.

Certain conditions are desirable; namely, uniform temperature, dry atmosphere and high elevation. These conditions will best suit the majority of patients. But some, however, are most benefited by a moist atmosphere instead of dry. Some endure better a comparatively cold climate, others do better in warm. There is no standard by which to judge. In the incipient stage of the disease I would prefer Colorado, but not when it is far advanced or when the patient is subject to hemorrhages. If the patient endures cold well Minnesota promises benefit. When there is much debility, cavities in the lungs, much expectoration with a tendency to hemorrhage, Florida and southern California are to be preferred. Some ten years ago I had a patient pretty well advanced in consumption; he removed to Florida, and his removal was followed by marked improvement in his condition. In two years he came North with a speedy return of the dis-

ease. Again he went to Florida and again improved. Several times since, a return to the North has been quickly followed by a relapse. The benign influence of the climate arrests the disease, but the predisposition remains. This suggests the question of permanency of residence when benefit is derived from the change, and the above instance is an evidence of its necessity, and that a return to the former conditions of life renders a recurrence of the disease probable. Therefore a patient should make such arrangements as will make the change permanent or of long continuance.

There are many patients to whom a change of climate would bring no relief. Such are those strongly attached to home, to friends, and to old associations; timid among strangers, or liable to home-sickness. A change to them would bring no relief but rather hasten the end. It is also useless to remove from the comforts of home and the ministration of family and friends one in the last stages of the disease only to die among strangers.

DIET.—The diet of the consumptive should be nutritious, easily digested and assimilated. Milk, cream, eggs, soups, beef, mutton, fish, butter and bread should constitute the chief articles. It is important that the patient take freely of food, for if the appetite be vigorous the prospects of recovery are increased. Milk has been highly lauded by many, and cures are claimed to have been made by its liberal use. It is also desirable that foods containing abundance of oil, as cream, butter and fat meat, should enter as largely as possible into the bill of fare. It is probable that cod-liver oil so extensively used in tuberculosis benefits as a food rather than as a medicine.

The ventilation of the room occupied by the patient should be sedulously attended to. It is a mistake to suppose that fresh, cool air in abundance is injurious. A fire-place is preferable as a means of warming the room. If a stove is used, pure air must be freely admitted. Out-door life should be adopted as far as practicable. Those who spend a large portion of time in the open air do better than those who remain in doors. It is no unusual thing for patients even in a cool climate to occupy tents a whole season, with marked benefit to the health.

CLOTHING.—The clothing should be adapted to the season. Flannel or silk should be worn next to the skin on account of their non-conducting properties. The best rule for guid-

ance is to be adequately protected, changing the amount of clothing according to the exigencies of the season.

EXERCISE.—Exercise to be beneficial should be of a nature to interest and amuse, otherwise it becomes a burden and is sure to be neglected. Walking with some object of interest in view, as botanizing, riding, rowing, croquet, archery, traveling, are all agreeable and beneficial exercises.

Over exertion, however, should be avoided, and exercise should cease when fatigue begins.

MODES OF RECOVERY.—There are several modes in which recovery or indefinite retardation of the disease may occur.

First. By softening, breaking down and expectoration of the tuberculous masses, and subsequent healing and cicatrization of the cavities formed. This can only occur when a limited amount of tubercle is deposited in the lung tissue.

Secondly. By quiescence of the tubercular matter deposited and the cessation of new deposits. The less the amount the more favorable the prospect is that softening and expulsion will not occur. The presence of tubercle in the lung even in small quantity is however a source of threatened danger from a variety of exciting causes.

Thirdly. Absorption of the animal portion of tuberculous deposits may take place, leaving the mineral constituents in the form of calculi, which may remain in the lungs or be expectorated.

Finally, the cavities formed by the liquefaction and expulsion may remain, if small, without seriously impairing the health of the patient.

The remedies are *Belladonna*, *Calc. carb.*, *Cuprum*, *Digitalis*, *Hepar sulphur*, *Iodium*, *Kali carb.*, *Lycopodium*, *Millefolium*, *Natrum mur.*, *Nitric acid*, *Phosphorus*, *Phosphoric acid*, *Plumbum*, *Stannum*, *Sanguinaria* and *Sulphuric acid*. The most valuable remedies are *Belladonna*, *Lycopodium*, *Phosphorus*, and *Stannum*.

ACONITE and BRYONIA may be given as intercurrent remedies in circumscribed pleuritis and pneumonia, which so often occur during the progress of consumption.

TARTAR EMETIC in profuse muco-purulent expectoration with much rattling of mucus in the chest.

CHINA in great debility with profuse night sweats.

ACTEA in shooting pleuritic pains.

SILICIA for profuse discharge of pus from cavities.

BELLADONNA is indicated in the incipient stage, in individuals of sanguine temperament; is especially suitable

for young girls approaching the age of puberty. The symptoms indicating its use are: dry, hacking cough, dryness and soreness of the larynx, hoarseness or aphonia, flushed cheeks with fever in the afternoon, stitches in apex of right lung. It may be used in alternation with phosphorus.

CALC. CARB.—This remedy is specially useful for individuals with scrofulous diathesis and lymphatic temperament. The symptoms particularly indicating its use are early emaciation and debility, short, dry cough at night, purulent expectoration during the day, burning in hands and feet, moist on head and chest, exhausting sweat; tendency in females to profuse menstruation and leucorrhœa. *Calc. carb.* is more useful in the first and beginning of second stage.

DIGITALIS.—*Digitalis* is not a remedy *per se* for consumption, but in some of the complications which arise during the course of the disease, much benefit may be derived from its exhibition. Great debility, retarded action of the heart, passive congestion of the liver, œdema of the feet, loose mucous cough constitute the group of symptoms for which *Digitalis* will prove palliative. Burt prefers the 3d cent. trit. of *Digitaline*, especially when the disease is attended with paroxysms of asthma.

IPECAC and HAMAMELIS for hemorrhage.

HEPAR SULPHUR.—Great sensitiveness to cold air, liability to take cold on the least exposure, dry, hacking cough, principally at night. Hoarseness. Better adapted to complication of laryngeal phthisis, or in chronic pneumonia at base of right lung.

IODIUM.—Shortness of breath, and palpitation after exertion, or climbing stairs, dry morning cough from tickling in the larynx, stitches and burning in the chest, gray or white expectoration. This remedy is most useful in its combination with *Cod-liver oil*.

KALI CARB.—Dry cough aggravated about 3 A. M., stitching, darting, shooting pains through the chest, great liability to take cold, hectic fever, night sweats. The pains are the characteristic symptoms which specially call for the administration of this remedy.

LYCOPodium.—*Lycopodium* is one of the most reliable remedies in the first stage of tuberculosis. I doubt its value in the second stage. Loose cough with expectoration of gray purulent mucus, of a salty taste, pulse quick, hectic fever, fever at its height about 4 P. M., night sweats.

Is especially efficacious in phthisis, following neglected or

chronic pneumonia, with abundant expectoration of purulent mucus, with loose, moist rales in base of lungs and bronchial tubes. Also to those cases complicated with indigestion and flatulence.

NATRUM MURIATICUM.—I have found this remedy very efficacious in controlling the chills which are such an annoying and depressing accompaniment of the disease.

NITRIC ACID.—*Nitric acid* is valuable in the ulcerations of the throat and larynx, with dry, painful cough, which are sometimes met with in the last stages of consumption.

OLEUM JECORIS ASELLI.—Burt, in his valuable monograph on the therapeutics of pulmonary tuberculosis, says of this remedy: "The analysis of *Cod-liver oil* gives us a compound of twenty different remedies, all of which it will be seen act especially upon the great sympathetic or vegetable nervous system, the grand centre for the action of the tubercular poison, and it will be seen are the principal remedies used by our school for the cure of tubercular consumption. This analysis also gives us an explanation of how *Cod-liver oil* cures consumption. First, it holds in solution a fine attenuation of *Lime, Iodine, Phosphorus, Bromine*, and a large number of other valuable remedies, and it is nonsense to think they do not act medicinally. Our preparation of the same remedies contain far less medicine of each one of the ingredients at the 30th or 200th attenuation than the oil. Consequently we must conclude from this that the beneficial influence exerted by *Cod-liver oil* in phthisis is, to a large extent, medicinal. In all ages oleaginous substances have been highly esteemed as curative agents in consumption. We see that it supplies nutriment in a concentrated form, and also acts medicinally."

Dr. Williams, in a work on pulmonary tuberculosis, asserts that it is the only agent of any value in the cure of the disease. It improves digestion, appetite and strength, diminishes the cough and expectoration; fever and sweat cease.

Dr. Mayhofer says *Cod-liver oil* justly merits the high appreciation it holds with the medical profession.

I have no doubt but that the medicinal substances incorporated with the oil are, to a certain extent, beneficial, yet I think that from its use as a food we derive the greatest advantage.

It may be given in doses from a tea-spoon to a table-spoonful twice daily, just before or after meals, as experience may

decide. An almost tasteless emulsion has recently been prepared which obviates much of the repugnance to its use.

PHOSPHORUS.—At the very outset of the disease, and prior to softening of the tubercles, dry, hacking cough, acceleration of the pulse, dyspnœa after exercise, and gradual emaciation, I regard *Phosphorus* as the first of remedies. Also in the second stage, when masses of tubercle have broken down, leaving large cavities, with profuse expectoration of pus, it will do more good than any other remedy.

PHOSPHORIC ACID.—*Phosphoric acid* is indicated when the mesenteric glands become involved with ulceration of the intestines and colliquative diarrhœa. It acts best in the 30th potency.

STANNUM.—*Stannum* is indicated in the second stage, with loose cough, profuse expectoration of creamy colored pus, in roundish masses like buttons, of a sweet or putrid taste, profuse night sweats.

SANGUINARIA.—Valuable in incipient phthisis with concurrent bronchitis, cough dry, fatiguing, voice rough, dyspnœa, and tickling in larynx, dryness and roughness of throat.

SULPHURIC ACID.—*Sulphuric acid* is next to *China* in controlling profuse and exhausting night sweats. Water should be pleasantly acidulated with the acid, and the patient be allowed to drink freely of it.

SECTION SECOND.

DISEASES OF THE DIGESTIVE SYSTEM.

CHAPTER I.

STOMATITIS, APHTHÆ, ODONTALGIA, TONSILLITIS, PHARYNGITIS AND RETRO PHARYNGEAL ABSCESS.

STOMATITIS—FOLLICULAR, ULCERATIVE AND GANGRENOUS. ODONTALGIA. TONSILLITIS. PHARYNGITIS—ACUTE AND CHRONIC. RETRO PHARYNGEAL ABSCESS.

AMONG the diseases pertaining to the digestive system I shall consider several whose analogies place them in this class rather than in others. Such are tonsillitis, pharyngitis, parotitis, etc. The structures affected belong to the alimentary canal or are connected with it in function; as for example, the parotid glands furnish saliva for the buccal cavity and are, therefore, intimately allied with the act of digestion.

STOMATITIS OR INFLAMMATION OF THE MUCOUS COAT OF THE MOUTH.

There are three varieties of this affection; namely, follicular stomatitis, its seat the mucous follicles; ulcerative stomatitis or *noma*, the gums being affected; and gangrenous stomatitis or *cancrum oris*, the tissues of the cheek being the seat of the morbid action. All three are peculiar to infancy and childhood.

FOLLICULAR STOMATITIS.

Follicular stomatitis, called by some writers aphthous stomatitis, is a mild form of the disease. It may be idiopathic or a sequela of measles or scarlatina.

Symptoms.—The symptoms are pain in nursing or drinking, free flow of saliva, and swelling and tenderness of the submaxillary glands. The patient is feverish and restless, has little appetite, and is troubled with offensive smelling diarrhœa. Examination of the mouth shows small vesicles on the inside of the mouth and on the tongue, which bursting leave small ulcers of an ash or grayish white color; sometimes these ulcers run together, forming quite a large sore. As the first ulcers heal, new ones are formed, the process going on for a considerable period.

The remedies are *Borax* and *Muriatic acid* topically and *Merc. sol.*

Dissolve a dram of BORAX in an ounce of water or *Glycerine*; or ten drops of MURIATIC ACID in two ounces of water and apply once in four hours. For applying these use a piece of soft linen cloth tied to a stick or wrapped around the finger.

Give MERC. SOL. three times a day.

If the case prove intractable and the ulcers heal slowly I touch them with a small pine splinter dipped in *Muriatic acid*, washing the mouth immediately after with water.

ULCERATIVE STOMATITIS OR NOMA.

Symptoms are heat of the mouth, increased flow of saliva, offensive breath, swelling and tenderness of the submaxillary glands. The gums are swollen, red, tender to the touch, easily bleeding and covered with a layer of gray matter. If the disease continues for any length of time, ulceration destroys the gums, leaving the teeth exposed, loose and liable to fall out. The cheeks become ulcerated and swollen; the tongue also swells.

The disease chiefly affects the children of the poor, especially those who are weakly and who suffer from insufficient food, imperfect ventilation and dampness.

Treatment.—The treatment should first be the removal of the exciting causes; good food, warmth, pure and dry air are the best remedies. The mouth should be washed once in four hours with a saturated solution of *Chlorate of Potash*. A tea-spoonful of the 2d dec. dil. of *Muriatic acid* may also be given once in four hours.

CANCER ORIS, OR GANGRENOUS STOMATITIS.

This is a much more serious affection than the two preceding varieties. It is met with in debilitated children between the ages of two and six years.

Symptoms.—Languor, debility, loss of appetite, restlessness and emaciation, dribbling of saliva, gums swollen and ulcerated, formation on one cheek of a hard indolent swelling. Soon an ulcer appears on the cheek gradually increasing and spreading until it covers the whole interior of the cheek and gums. The saliva is profuse and exceedingly offensive. If the ulcerative process is not arrested perforation of the cheek takes place, the gums are destroyed, the alveolar process is affected, and exfoliation may ensue.

The constitutional symptoms correspond to the morbid action going on. The pulse is rapid and small with great prostration and debility.

Happily the disease is much less common than formerly, when *Mercury* was so generally used as to often induce mercurial stomatitis. The symptoms and course of mercurial stomatitis nearly resemble the idiopathic variety, with the additional injury or destruction of the teeth.

Treatment.—*Merc. vivus*, *Nitric acid* and *Carbo veg.* are the remedies when the disease is idiopathic. *Nitric acid* and *Hepar sulphur* when caused by the excessive use of *Mercury*.

MERC. VIVUS is indicated: ulcerated mouth and gums, profuse saliva, great fetor of breath, red spongy gums, swollen flabby tongue, loose teeth, swelling of submaxillary glands, burning diarrhœic stools.

NITRIC ACID.—Gums pale, swollen and bleeding, corroding ulcers on cheeks and tongue, terrible fetor, profuse bloody saliva.

CARBO VEG.—Mouth hot, ulcers on mucous membrane of cheeks, tongue dry and parched, gums ulcerated and receding from teeth; hemorrhage from mouth and nose.

HYDRASTIN is of great benefit as a topical application; 2d dec. dil. is to be preferred.

PHYTOLACCA.—Second dec. in mercurial stomatitis.

APHTHÆ OR THRUSH.

Aphthæ consists of small, white, cheesy, elevated patches scattered over the tongue and mucous membrane of the mouth. When detached the surface beneath is more or less red and inflamed. The formation, if examined under the microscope, is seen to consist of parasitic plants or fungi and epithelial scales. When abundant it forms a thick, whitish coat, somewhat like diphtheritic exudation. The general symptoms are restlessness, difficulty in swallowing and

diarrhœa. The disease occasionally invades the œsophagus and stomach.

Treatment.—*Borax* and *Glycerine* or a weak solution of *Muriatic acid* are the remedies which I have found most efficient. In mild cases a lotion of one dram of BORAX to the ounce of GLYCERINE, applied twice a day will promptly relieve.

In severe cases apply dilute MURIATIC ACID, five drops to one ounce of distilled water.

An English writer states that a solution of sixty grains of SULPHATE OF SODA to one ounce of water will cure the disease in twenty-four hours. The secretions of the mouth being acid, the salt is decomposed setting free *Sulphurous acid* which at once destroys the fungus. .

ODONTALGIA.

(*Synonym, TOOTHACHE.*)

The remedies are *Aconite*, *Bryonia*, *Calc. carb.*, *Chamomilla*, *Coffea*, *Comocladia*, *Ignatia*, *Merc. vivus*, *Mezereum*, *Nux moschata*, *Pulsatilla*, *Spigelia* and *Staphisagria*.

ACONITE.—Sensibility of the teeth to open air, toothache from cold, or dry cold winds, with throbbing on one side, cheek red, left side or from right to left, toothache in sound teeth, teeth feel elongated.

BRYONIA.—Drawing, sticking toothache while eating extending to muscles of the neck, aggravated by warmth. Toothache relieved by cold water, aggravated by taking anything warm in the mouth, aggravated by lying on painless side; relieved by lying on painful side. Jerking toothache when smoking.

COFFEA.—Toothache; stinging, jerking, intermittent, aching, with restlessness, anguish and weeping mood; especially at night after a meal; aggravated from hot or warm drink, ameliorated when holding ice or ice cold water in the mouth.

CALC. CARB.—Offensive smell from the teeth. The teeth cannot endure the air or any coldness. Toothache if cold air or cold drinks enter the mouth. Toothache immediately after menstruation. Gums painfully tender; swelling, bleeding.

CHAMOMILLA.—Toothache of children, *with irritable mood*; stitching, digging, gnawing toothache, worse at night; teeth feel too long; gums red and tender.

COMOCLADIA.—Intermittent and pulsating pain in the teeth aggravated by cold, relieved by warm applications.

IGNATIA.—Toothache worse after drinking coffee, after smoking tobacco, after dinner; in the the evening, after lying down or in the morning on waking. Boring pain in the front teeth; *soreness in all the teeth*.

MERC. VIVUS.—Teeth feel loose, fall out, become black, carious; pulsating, jerking toothache extending into ear and head; worse at night and from warmth of bed; gums painful to the touch, swollen, spongy, receding from teeth; edges whitish, bleeding; fetid odor from the mouth; *abscess of the gums*.

MEZEREUM.—Boring and stinging toothache extending to the malar bones; teeth feel dull and elongated, toothache worse at night, also when touched with the tongue.

NUX MOSCHATA.—Toothache in *pregnant women*; stinging, tearing, worse during cold, damp weather; from washing, from touch or sucking the teeth; better from warmth.

PULSATILLA.—Throbbing, digging in hollow tooth, *extending to the eye*, accompanied by otalgia.

SPIGELIA.—Toothache of* decayed teeth; teeth feel cold; better while eating, worse after; worse at night.

STAPHISAGRIA.—Teeth black, crumbling, carious. *Toothache during menses*. Gnawing, tearing in decayed teeth; shooting into ear; throbbing in temples; worse from cold drinks and touch, but not from biting on them.

TONSILLITIS.

(*Synonyms, QUINSY, AMYGDALITIS.*)

Tonsillitis is not a dangerous disease, nevertheless the pain and distress it occasions are very considerable. There is often a slight chill at the outset, with pain and tenderness in the inflamed region. The attack usually commences in only one tonsil, though both are at times affected simultaneously. On examination the tonsil is found to be swollen, of a dark red color and frequently covered with a membranous deposit somewhat resembling that of diphtheria, for which disease it is sometimes mistaken. The exudation is thinner and more transparent, and has not the characteristic fetor of diphtheria.

Deglutition is exceedingly painful from the swelling of the glands and from the obstruction to the passage of food and drink. Acute tonsillitis generally ends in suppuration, after which the disease quickly subsides. The diagnosis is easy, diphtheria being the only disease for which it may be mistaken.

The disease generally arises from exposure to cold. A predisposition to it exists in many persons, and such are liable to repeated attacks.

Treatment.—The application of compresses soaked in tepid water are useful as a topical remedy. The remedies are *Belladonna*, *Merc. viv.*, *Lachesis*, *Apis* and *Lycopodium*.

BELLADONNA is the chief remedy in the beginning of the attack, especially if the tonsils are of a crimson color with great *dryness*. Headache is an additional indication for *Belladonna*.

MERCURIUS is indicated when the color is a dark red with viscid tenacious mucus, and ulcers. The breath is fetid, but has not the peculiar odor of diphtheria. The pain is not so acute as when *Belladonna* is indicated.

I prefer MERCURIUS VIVUS to the other mercurial preparations.

LACHESIS is recommended in tonsillitis when the pain shoots up to the ear, following the Eustachean tube.

APIS is not so well adapted to tonsillitis as to simple acute pharyngitis, especially if œdema is threatened.

LYCOPODIUM is more useful in the chronic form when the tonsils remain much enlarged.

If there is a scrofulous diathesis, with chronic enlargement, HEPAR SULPHUR is a valuable remedy.

The fact is, however, that prescribe as carefully as we will the disease runs on to suppuration. I have oftener failed to arrest its course than I have succeeded. In the acute form of the disease I rarely use other than *Belladonna* and *Merc. viv.*

We frequently meet with cases of enlarged tonsils among children. These can hardly be considered chronic tonsillitis. They are rather examples of hypertrophy, nevertheless we may succeed in causing absorption by persistent use of medicines.

The remedies for chronic tonsillitis are *Calc. phos.*, *Cauticum*, *Lycopodium* and *Sulphur*.

CALC. PHOS. is specially indicated in chronic tonsillitis of children with scrofulous diathesis. Absorption often spontaneously takes place as the child grows older. If no absorption takes place, and remedies fail to relieve, the alternative is excision.

ACUTE PHARYNGITIS.

Pharyngitis, or simple sore throat, is limited to the mucous membrane of the fauces. It sometimes prevails as an epidemic. The throat is at first dry, red and painful. Afterward there is a secretion of tenacious mucus adhering closely to the throat. Deglutition is more or less difficult and painful. The uvula is often swollen, œdematous and covered with an exudation somewhat resembling diphtheria.

The remedies are *Belladonna*, *Apis*, *Capsicum*, *Mercurius corrosivus*.

BELLADONNA.—Dryness and redness of throat with constant inclination to swallow, throat red and shining.

APIS.—Much swelling of throat, dark red, uvula swollen and œdematous, tenacious mucus in the throat, difficult deglutition. The special indication for *Apis* is swelling and œdema of uvula.

CAPSICUM.—Dark red inflamed throat, burning, stinging pains, feeling of constriction in the throat with disposition to cough.

MERC. CORROSIVUS.—Throat intensely inflamed, with feeling of suffocation, very painful and difficult deglutition, pricking in throat; worse toward evening with feeling of dryness in throat.

CHRONIC PHARYNGITIS.

This is rather a frequent affection of the throat. It generally springs from repeated attacks of acute pharyngitis. The appearances vary in different cases. In the granular variety there is present a redness of the mucous membrane, and it is irregularly thickened, giving it its granulated appearance. The posterior wall of the pharynx is frequently coated with thick purulent mucus. In the follicular variety the follicles of the tonsils are filled with whitish gray masses from the size of a pin's head to that of a pea. I have often seen the tonsils of patients thickly studded with them. They are, when ejected by coughing, frequently mistaken for tubercles.

Diagnosis.—The diagnosis is easy, ocular inspection showing the condition of the parts. It must not be mistaken, however, for syphilitic sore throat. The concomitant symptoms, the history of the patient and the peculiar appearance of the throat will make a mistake unlikely to occur. The disease is more annoying than serious, ranking with catarrh in this respect as well as in long duration.

Treatment.—NITRIC ACID is indicated for ulcerated throat with soreness and rawness.

HEPAR SULPHUR.—Sensation as if mucus were lodged in the throat, feeling as of a lump which needs to be removed, roughness and scraping sensation in the throat.

LACHESIS has many symptoms indicating its use. Sensation in the throat as if a morsel of food were there; sensations as of ulcers in the throat, much hawking of mucus, *shooting pain to the ear*.

BICROMATE OF POTASH.—Profuse secretion of mucus, difficult to detach, *expelled in long strings*.

KALI CARB.—Much mucus in the back of throat, requiring much hawking, dryness far back in the throat, scraping sensation in the throat. Many other remedies have symptoms corresponding to those of this disease. You will have ample time to study accurately your case. The disease is always persistent, and will frequently disappoint your best efforts.

MUMPS, PAROTITIS OR PAROTIDITIS.

As this is an affection of a gland concerned in the secretion of a fluid to aid digestion, it may come under the head of diseases of the digestive system. It is considered to be a contagious disease, though this has been denied by some authors. It commences in from seven to twelve days after exposure. The symptoms are swelling and acute pain in the gland, the pain being worse during mastication and swallowing. The swelling is sometimes so great as to push out the lower part of the ear and to cause considerable disfigurement of the face. There is usually some fever, and chilliness precedes the fever. Acids aggravate the pain. The disease lasts from four to six days. Sometimes there is concurrent orchitis. It is generally supposed that this is a metastasis of the disease from taking cold. It is rare; I have only seen three cases of it.

Parotitis also occurs in connection with typhoid fever. It is an exceedingly unfavorable symptom.

Treatment.—*Mercurius* is the only medicine needed. If orchitis occurs, *Pulsatilla* and *Clematis* will speedily subdue the swelling. If there should be induration afterward *Conium* will prove efficacious in removing it.

RETRO PHARYNGEAL ABSCESS.

This affection is occasionally met with, and without careful observation is liable to be confounded with quinsy.

It is the result of inflammation of the loose connective tissue between the posterior surface of the pharynx and the anterior part of the spine. It may result from injury, from constitutional derangement, or caries of the vertebræ. Scrofulous and syphilitic taints predispose to it. The inflammatory action may commence in a lymphatic gland back of the pharynx.

Symptoms.—In the commencement, fever, nausea and soreness of the throat, followed soon by difficulty of breathing and swallowing, increasing as the swelling in the throat grows larger. The head is fixed and drawn back, with rigidity of the muscles at the back of the neck. Articulation is difficult and drawling. Deglutition becomes more and more difficult until it is impossible to swallow solids, and liquids return through the nose. Convulsions may occur during the course of the disease. On examining carefully the throat a projecting round tumor is felt just beyond the base of the tongue.

Diagnosis.—The diagnosis can only be made by careful examination, otherwise it may be mistaken for some brain disease, or affection of the larynx.

One point of discrimination is in the position of the patient; the recumbent position bringing on an attack of dyspnœa.

Prognosis.—The prognosis is grave.

Treatment.—*Hepar sulphur* to promote suppuration and evacuation of the pus as soon as formed. The bistoury should be wrapped with tape to near the point. A few doses of *Silicia* should follow the operation.

CHAPTER II.

DIARRHŒA AND CHOLERA INFANTUM.

DIARRHŒA, VARIETIES OF—CAUSATION—TREATMENT—DIET. CHOLERA
INFANTUM, VARIETIES OF—PROGNOSIS—CAUSATION—TREATMENT.

DIARRHŒA.

Varieties of.—Diarrhœa means an abnormal condition of the dejections from the bowels. They are too frequent, too liquid, and usually of a different color and odor. There are many different varieties of the affection based upon the differing characters of the dejections I have mentioned. Indeed there are few diseases presenting so many differing conditions as this.

Different writers give different classifications, or varieties. Some too many, others too few; some make fanciful distinctions without any practical value. The varieties of which I shall speak are: 1. Fecal, where the discharges are abnormally liquid, but still retain the characteristic fecal odor. This variety is commonly called bilious diarrhœa. 2. Catarrhal diarrhœa, or irritation and inflammation of the mucous coat of the intestines. 3. Transient diarrhœa, which is induced by mental emotions or the eating of food which irritates the digestive canal. 4. Serous diarrhœa, characterized by profuse watery discharges, in which there seems to be transudation through the walls of the intestines. 5. Lienteric, in which the evacuations contain undigested food; and, 6th, colliquative, dependent upon organic disease elsewhere. Most of these forms of diarrhœa may be produced by the action of various medicines. *Castor oil* and *Mercury*, the first; *Colocynth*, *Jalap* and *Croton oil* the second; the hydragogue cathartics as *Élæterium*, *Podophyllum*, *Euphorbium* the fourth. Drugs which seriously impair the power of digestion represent the fifth. Concerning the symptoms of the disease I need say nothing. The subject speaks for itself, and

usually demands attention in the most emphatic manner. It is seldom a dangerous disease when unattended with fever or inflammation.

Causation.—The disease is much more frequent in the summer months and among children than adults. Its frequency in summer is attributed to the use of vegetable food, to the relaxing effects of heat and the greater impurity of water. In children the irritation of dentition is a frequent exciting cause. Children also are less careful in their diet and are very apt to cram themselves with all sorts of unwholesome fruits and vegetables. A frequent cause of diarrhœa is in individual idiosyncrasies and in violent mental emotions. Anxiety and fear often bring on the complaint. Eating certain kinds of food when the body is exhausted by physical or mental labor induces an attack. Change of drinking water is another exciting cause. Exposure to wet, sudden arrest of perspiration and indigestion are other causes.

In the so-called colliquative diarrhœa the cause lies probably in the general debility consequent upon the diseased condition elsewhere, or upon lesions in the intestines themselves.

Treatment.—It will be impossible to give you all the indications for the various remedies, or all the multitudinous forms of diarrhœa you will meet with in practice. I shall give the leading characteristics of the principal remedies useful in the disease. A careful study of each case, however, will be necessary to success. You cannot go into the field with a battery of guns loaded and shotted for an assault on the enemy. As a friend of mine once said, rifle-shot practice is the only useful attack in this disease. I sometimes envy my allopathic friends with their astringents and sedatives. They are simple in application if not efficient in work.

I have already given some indications of the general value of remedies, classing them according to their effects on the intestinal canal. The careful study of these effects is the key-note to their administration in disease. Some cause pain as well as frequent and liquid evacuations. Some change the consistence, the color and the odor of the dejections. Some retard digestion, others increase or diminish the flow of bile and pancreatic juice. Some irritate more or less the mucous coat of the bowels.

The principal remedies which I present for consideration are *Chamomilla*, *Mercurius*, *Colocynth*, *Rheum*, *Podophyllum*, *Euphorbium*, *Ipecac*, *Iris versicolor*, *Dulcamara*,

Nux vomica, *Arsenicum*, *Sulphur*, *Croton tiglium*, *Magnesia carb.*, *China*, *Phosphorus*, *Phosphoric acid*, *Sulphuric acid*, *Secale cornutum*, *Veratrum alba*, *Tris nitrate of Bismuth* and *Pulsatilla*. There are many more, each of which may be adapted to some form of diarrhœa, but the remedies I have mentioned will suffice for the large majority of cases.

One more thing in regard to the peculiar action of medicines and the nature of the disease we are considering. One year many of the cases we meet in practice have similar symptoms and one remedy suffices for the majority of patients; another year the complaint will call for another remedy, and so on. Last summer I prescribed *Podophyllum* in nearly every case. The summer before *Podophyllum* was rarely indicated and *Mercurius sol.* acted, as the patients declared, like a charm.

That summer the diarrhœas almost invariably were catarrhal, mucous and frequently slightly mixed with blood. This year, 1881, *Mercurius sol.* cures the large majority of cases.

In the treatment of the disease I shall, as far as possible, give the more prominent symptoms of the disease and the characteristic indications for the remedy.

CHAMOMILLA—Is especially indicated for young children. The discharges are yellowish, or rather like scrambled eggs, not very copious, smelling like rotten eggs, with flatulent colic. Diarrhœa caused by teething. Child is restless and feverish, with whining restlessness; wants this and that, but is dissatisfied with everything offered and pushes it way. This last symptom is met with frequently in children.

MERCURIUS SOL.—Green, slimy, scanty stools, occasionally streaked with blood, some tenesmus; colic not a prominent symptom. Soft fecal and mucous stools, with straining, excoriation of the anus. If there is sour perspiration it is an additional indication for *Mercurius*. *Colocynth* in alternation if colic is severe.

COLOCYNTH.—The peculiar symptoms calling for the administration of *Colocynth* are the colic pains. These are grinding, twisting pains, causing the sufferer to bend forward. The pain is chiefly confined to the upper portion of the abdomen. Colic precedes the evacuations, which are followed by relief; flatulence with the evacuations. Stools copious, fecal, pappy, or like mush in consistence; bloody stools. Thin frothy, yellow stool.

It will be observed that the character of the stools varies and it is not so much these that will guide you in the selec-

tion of *Colocynth* as the remedy, but the colocynth colic, which is like that of no other drug but *Dioscorea*.

RHEUM.—Sour smelling stools with a general sour odor of the patient; stools loose, thin, curdled, turning green; worse after eating. A frequent symptom is tenesmus after stool.

PODOPHYLLUM.—The discharges caused by this drug vary in character; generally they are watery, profuse and frequent; sometimes slimy, bloody, chalk-like, with undigested food; generally painless, looking like dirty water; *worse in the morning*; scanty urine. In the cholera morbus of children, with profuse gushing, watery, painless stools, foul smelling, *worse in the morning*, I know of no remedy so effectual as *Podophyllum*. In dysenteric diarrhœas occurring in the morning it is a valuable remedy. There is not so much prostration in the form of diarrhœa calling for *Podophyllum* as in that to which *Veratrum* and *Camphor* are adapted.

If there is *prolapsus ani* you will have a characteristic symptom of *Podophyllum*.

In the summer of 1880 *Podophyllum* was the most useful remedy. I gave it in nearly every case and do not remember losing a single patient.

EUPHORBIIUM.—Profuse vomiting and diarrhœa, with great faintness and sense of prostration. These symptoms resemble more those belonging to cholera morbus, but simple diarrhœa is sometimes attended with copious vomiting, especially when the stomach is weak and overloaded with food.

IPECAC.—Discharges *bright green* mixed with greenish mucus, attended with nausea and vomiting of greenish mucus, *distressing and persistent nausea*. This and the bright green stools are the characteristic indications for *Ipecac*. There is also some colic before stool.

DULCAMARA.—I have often been disappointed in this remedy and think it has an undue prominence in our materia medica. It seems to be adapted to complaints brought on or aggravated by damp, wet weather. It is recommended for diarrhœas occurring in wet weather, or which are aggravated or renewed by it. I do not know of any other peculiar indications for its use. It has seldom proved effective in my hands.

IRIS VERSICOLOR.—Stool, thin watery, tinged with bile, corrosive, copious, preceded by vomiting of serous fluid mixed with bile.

NUX VOMICA.—This remedy has well defined indications

for its use; diarrhœa alternating with constipation, cases of which are constantly occurring in practice. Small lumpy stools with tenesmus during and afterward. Constant urging to stool with inability to discharge anything. Worse from the effects of drinking or after mental exertion. *Intermitting diarrhœa* recurring every two days. It has a small range of action, but in this it is a very valuable remedy.

ARSENICUM.—This remedy is not often indicated. In diarrhœa, with thin, green mucous stools with great *restlessness* and anxiety, with *burning thirst*, but only desiring to drink a little at a time, tenesmus with burning sensation in the rectum, great prostration, it will prove curative. It is not often that this group of symptoms is met with, but when it is, *Arsenic* is the remedy.

SULPHUR.—If you ever have a patient who says that he has suddenly to get out of bed and rush out and then perhaps not be in a sufficient hurry, give him *Sulphur*. For very early morning diarrhœa, with urgent call to stool, it is the remedy.

CROTON TIGLIUM.—First, discharge of yellowish, watery dejection, coming out like a shot and followed by mucous stools, aggravated by food and drink. Sometimes accompanied by pain, at other times not.

MAGNESIA CARB.—Green, watery, *frothy*, sour smelling, *green, like scum on frog pond*, stools mixed with *undigested food*, sour eructations, also sour vomiting. Green, watery stool mixed with bloody mucus.

CHINA.—*Painless*, watery, undigested stools, worse after eating, diarrhœa occurring after acute diseases, or from excessive weakness.

PHOSPHORUS is chiefly indicated in colliquative diarrhœa, especially in mesenteric consumption. The discharges are purulent and painless, and contain undigested food. Not useful except in chronic cases.

PHOSPHORIC ACID.—Painless, watery diarrhœa, either in acute or chronic cases. In diarrhœas attending typhoid fever it is of special value.

SULPHURIC ACID.—In protracted diarrhœa of children with watery, frequent discharges, with the general health only slightly affected, I have found the first centesimal dilution of *Sulphuric acid* freely administered of great benefit. Also in the colliquative diarrhœa of phthisis.

SECALE CORNUTUM.—Sudden attacks of involuntary diarrhœa in aged persons.

VERATRUM ALBA.—Serous diarrhœa of the color of *rice water* with great thirst and cold perspiration, vomiting.

TRIS NITRATE OF BISMUTH.—Dr. Thompson says its efficacy is not surpassed by any remedy, in the wasting diarrhœa of phthisis.

PULSATILLA.—In diarrhœas with mushy papescent stools occurring chiefly at night.

CALC. CARB. in chronic diarrhœa occurring in *scrofulous* rachitic patients.

CHOLERA INFANTUM.

This disease as known in this country includes pathological conditions very different from each other. It is popularly known as summer complaint from the time of its most frequent occurrence. One variety resembles the sporadic cholera of adults, or as more commonly known cholera morbus; another is gastric intestinal indigestion; and still another is enteritis, an inflammation of the mucous coat of the intestinal tract.

The first is characterized by vomiting and purging, and when the contents of the stomach and bowels are evacuated, transudation of the serous portion of the blood takes place, keeping up the evacuations. These are either speedily arrested or the diarrhœa continues, the child can retain nothing on the stomach, there is excessive thirst, great prostration ensues, and the child dies exhausted by the drain from the bowels and from lack of nutrition. In the second case the dejections are watery and mixed with undigested food, vomiting may occur or not, the discharges are frequently greenish. There is little pain. This form does not run so rapid a course as the first variety, nor is it so fatal in its results. In the third variety there is fever and tenderness of the bowels. The stools are mucous, and sometimes streaked with blood; are frequent and attended with tenesmus and pain. As in the second, vomiting may be present or not. In unfavorable cases convulsions are liable to occur in all the forms of the disease. This is either due to metastasis to the head or to the exhaustion of nervous force in consequence of the disease.

Prognosis.—The prognosis is generally favorable. In the first variety early attention to the disease is very necessary. It is much more easily controlled at the outset of the attack than in the latter stages.

Causation.—The most frequent causes are insufficient or defective nutriment, vitiated air, intense heat, bad water. Therefore, the disease is much more prevalent among the poorer classes, and especially in the badly lighted and ventilated tenements of our large cities. The irritation of dentition and the change of diet after weaning are fruitful sources of the disease. Physicians are often consulted on the subject of weaning children. It is best not to wean a child during the summer months, but if it is necessary extreme caution should be used in the selection of food, and this point you should bear in mind. Intensely hot weather, especially when the nights are hot and sultry, predispose to the disease. A careful attention to the diet of the patient is more essential in this disease than in any other. A single error may undo all that skill and attention has achieved and precipitate a fatal result. Therefore, taking heed what you allow for the food of your patient and strongly impressing upon the minds of the parents the absolute necessity of following your directions you may more hopefully look for success in the remedial measures you adopt. The food should be pure milk, beef tea, the broth from beef, mutton, or chickens, or meat may be reduced to a pulp and made palatable by salt or sugar. Slops are not desirable articles of diet as patients may starve on them.

Treatment.—The remedies are few. *Aconite*, *Veratrum alba*, *Iris versicolor*, *Podophyllum*, *Merc. sol.*, *Cuprum* and *Arsenicum* are the chief remedies.

VERATRUM in the first form, with CUPRUM, if convulsions are threatened. I gave the symptoms indicating its use when describing the type of the disease.

PODOPHYLLUM is the best remedy in the second variety, with CHINA as the second choice if the disease threatens to run into the chronic form. The leading indications for its use are given in the treatment of diarrhœa. In the third variety, that of enteritis, *Aconite*, *Mercurius sol.*, *Iris* and *Arsenicum* are the principal remedies.

ACONITE, if the diarrhœa and vomiting are accompanied by fever, skin hot and dry. The first dec. dil. should be given in one drop doses.

MERCURIUS has greenish mucous discharges, sometimes tinged with blood, pain and tenderness in the abdomen.

It is better adapted to enteritis when accompanied with vomiting with *pain* in the *epigastrium*. The vomiting is rather a prominent symptom of the disease.

ARSENICUM is seldom indicated at the commencement of an attack, but if the disease continues with much emaciation, with great thirst and restlessness, with a tympanitic condition of the bowels it will do efficient service.

The occurrence of convulsions is a very unfavorable symptom. My own experience shows that few, if any, recover if convulsions occur after the disease has made much progress. The patients rarely recover consciousness, but die in a state of stupor.

It is important to early recognize the disease and not confound it with simple diarrhœa, especially so in the true cholera infantum in which life is rapidly drained away by the exhausting serous discharges. In conclusion let me say that in no disease will it be more difficult to select the right remedy, nor one in which more happy and speedy results will follow in case it is selected.

CHAPTER III.

EPIDEMIC CHOLERA AND CHOLERA MORBUS.

HISTORY—PATHOLOGY—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS
—TREATMENT. CHOLERA MORBUS—CAUSATION—DIAGNOSIS—PROG-
NOSIS—TREATMENT.

EPIDEMIC CHOLERA.

(*Synonyms*, CHOLERA ASPHYXIA, ASIATIC CHOLERA.)

History.—This terrible scourge of the human race has its origin in the plains of Hindostan. By slow degrees it, starting from India as a centre, has overrun nearly every country on the globe. No season of the year has been exempt from its ravages, and it has been destructive alike in the high latitudes of Quebec and St. Petersburg, and the torrid climate of Bombay and Calcutta. It was confined to India until 1817. In that year it first attacked the British army under Lord Hastings, and committed terrible ravages, destroying in one week 800 soldiers and 8,000 camp followers. From this time it began to spread beyond the boundaries of India, with each succeeding irruption advancing further and further until finally it reached England in 1830 or 1831, and crossed to America, I think, in the same year. Its course was generally to the northwest, and it followed in its progress navigable rivers and the great lines of travel, especially along the routes traversed by the annual bands of pilgrims to eastern countries. Since then, both in Europe and America, it has raged as an epidemic; particularly in the years 1832, '48, '54 and '65, with many smaller outbreaks between.

Pathology.—There is a difference of opinion as regards the origin and propagation of the disease—whether by germs floating in the atmosphere, or by cholera miasm contained in the dejections of the sick communicating the disease to the well either through food or drink. From the fact that it follows great lines of travel, routes of caravans, navigable rivers or

railroads, the latter theory would seem to be the correct one. On the other hand, it is alleged that outbreaks of the disease are due to certain atmospheric conditions and changes of temperature, the disease subsiding with the return of the air and temperature to a more favorable condition. Both theories are probably correct in a measure. It is held by most modern authorities that the discharges from the body are the chief means of propagating the disease, though whether the miasm or cholera poison enters the body through the stomach, the lungs, or the skin, is a mooted question. It is generally held, however, that it is swallowed in the food and drink, and enters the blood through this channel. Some advocate the theory that it is through the water used for drinking that the poisonous germs are distributed, and many facts are adduced to show the truth of the assertion. The pathological conditions do not shed much light upon the disease. The blood is altered, being of a tarry appearance owing probably to the great loss of its fluid components during the disease. The great organs of the body show little or no changes of structure. The kidneys are sometimes gorged with venous blood. The bodies after death are usually much shrunken. This is probably owing to the great loss of fluids.

Symptoms.—The disease may be divided into three stages. *First*, simple diarrhœa, sometimes called cholérine. *Second*, in addition to the purging, vomiting and cramps, difficult respiration, coldness of the body, sinking of the pulse and collapse. *Third*, the stage of reaction and consecutive fever which continues until convalescence is established. The symptoms of the disease in its first and second stages are: stools of rice colored water poured out in great abundance and seeming to drain the patient dry; vomiting of thin, colorless, odorless liquid; violent cramp in the muscles of the legs and abdomen, drawing them into hard knots; albumen in the urine in the first stage, suppression of urine in the second; intolerable thirst, pulse small and feeble, difficult respiration, great prostration, with coldness of the whole body. The skin has a singularly shrivelled look and loses its elasticity, and when pinched up in a fold very slowly resumes its form. The voice is faint, feeble and husky. The patient does not complain of feeling cold, but often prefers to lie uncovered. If the disease increases in intensity, the face looks sharp, the eyes sunken and flattened. There is a gradual lessening of the respiration, disappearance of the pulse, and at last a complete arrest of the circulation. The intellect

generally remains clear to the last, the patient sometimes hopeful, but more often apathetic. The disease runs a very rapid course, death occurring in from three to twenty-four hours. If reaction takes place the purging and vomiting become less frequent or the discharges are more normal, the countenance more natural, the circulation improves, and the urine is again secreted. This improvement may be permanent or transient; cerebral or pulmonary congestion may ensue, or the suppression of the urine continuing there may be toxæmia, or the consecutive fever may be severe, finally assuming the typhoid type and destroying life.

Causation.—I have already said that the cause is a certain miasm or poison which is either atmospheric or is in the dejections of the sick, and this taken into the system reproduces itself. The immediate or exciting causes are bad, unwholesome food, as stale vegetables, fish, meats and fruits. In the cholera epidemic in Rochester in 1852, it was noticed that the fatality was always the greatest on Monday, and this was attributed to the greater consumption of stale fruits and vegetables which were sold Saturday night very cheaply to rid the market of them. Bad air, imperfect ventilation, and, above all, the use of impure water are predisposing causes. Gases from badly constructed sewers, foul privy vaults, personal uncleanliness, habits of intemperance, noxious trades as bone boiling, vitiated damp air are also conducive to attacks of the disease. Cholera finds the most of its victims among the ignorant, the depraved and the impoverished. It shuns well cleansed, well lighted, and well ventilated localities. The temperate and cleanly mostly escape. Hence locality, food, water, sunlight are powerful agencies for and against security from the assaults of this malady. It has been frequently noticed that more individuals are affected on the shady side of the street than on the sunny side. Light is a powerful disinfecting agent, and the presence of sunlight in our houses is necessary to the full preservation of health.

Diagnosis.—The diagnosis of epidemic cholera is easy. The features of the disease are not common to any other. The rice water stools are the chief diagnostic symptom, and if the patient has them we may diagnose the disease as cholera. Diarrhœa is exceedingly prevalent during a cholera epidemic and usually precedes an attack of cholera. Aside from the preceding diarrhœa the disease attacks the victim suddenly and without warning, and the case is frequently a

hopeless one before the patient is conscious of his danger or before a physician is summoned.

Prognosis.—A large proportion of those attacked die. In hospitals the mortality is much greater than in private practice, both because many are far advanced in the disease when admitted, and because the majority of the patients come from that class whose habits of life are not conducive to health and who consequently easily succumb to the disease. The chances of those are best who early secure medical help, for every hour's delay renders the prognosis more doubtful. It is more fatal in middle life.

Treatment and prophylaxis.—Cholera is a disease more easily prevented than cured. Prompt attention should be given to the removal of all exciting causes, the purification of cellars, drains, cess-pools and privy vaults, to the securing of pure, fresh water, and the removal of all garbage from lots and alleys. Absolutely pure water is one of the most essential requisites to protection.

Early attention to the premonitory diarrhœa is an efficient means of warding off attacks of cholera. The general testimony of medical men confirms this view. In no case is the maxim, "prevention is better than cure" more fully illustrated. In all cases, both of the disease itself and in the premonitory diarrhœa, absolute rest should be enjoined. The patient should lie upon his back and remain there until the danger is over.

The best remedy for the diarrhœa is *VERATRUM*, especially if the discharges resemble the rice water discharges of cholera. *IPECAC* is indicated if there is persistent nausea.

With either remedy the dose should be frequently repeated until the diarrhœa is arrested.

The remedies indicated in cholera are *Veratrum alba*, *Camphor*, *Cuprum met.*, *Arsenicum* and *Carbo veg.*

VERATRUM is the principal remedy. The symptoms as elicited by its provings show its adaptability to the disease. Discharges of rice colored water, copious vomiting, cramps in the abdomen and legs, intense thirst, sunken countenance, shrivelled skin, pulse small and rapid.

When cholera first appeared in Europe Hahnemann pointed out that *CAMPHOR* was the remedy which would be most effectual in its treatment. The correctness of his judgment is proved by the fact that for many years it has been extensively used by all schools of medicine and forms an important part of all nostrums advertised as specifics for cholera. It is more

particularly indicated when the attack is very sudden, with complete prostration and violent cramps. I have given the mode of administration in the article on cholera morbus.

During epidemics of cholera in France, I think, it was noticed that the employes and residents near copper works were, in a great measure, exempt from the ravages of the disease, and it was finally conjectured that the fumes of the COPPER were an antidote to the cholera poison. It is recommended by some writers as a prophylactic, two or three doses a day of the 3d trit. of the *Acetate*. It is indicated in the disease in the frigid stage or state of collapse if there are spasmodic twitching of the muscles, cessation of the stools from paralysis of the intestines, ineffectual efforts to vomit. It is a forlorn hope at best with these symptoms.

ARSENICUM is indicated, in the worst forms of the disease, where the patient is suddenly and completely prostrated, the worst symptoms at once setting in, with terrible distress, difficulty of breathing, and almost total cessation of the circulation.

CARBO VEG. is indicated when no reaction occurs. The patient lies in a stupor, with almost imperceptible pulse, cold breath, cold tongue, and general coldness of the body.

During the attack the patient should not, in any case, be allowed to arise, but maintain the recumbent position even when evacuating the bowels, and should be urged to avoid having a motion if it is possible.

The doses should be frequently repeated. The remedy may be given once in ten, fifteen or twenty minutes, according to the severity of the attack, until relief is obtained.

The utmost attention should be paid to cleanliness, to the prompt removal of the dejections of the patient and the complete disinfection of the morbid material. Modern science has thrown much light upon this subject, and we are much better able to arrest the ravages of the disease now than formerly.

CARBOLIC ACID and the PERMANGANATE OF POTASH are the best disinfectants, and the dejections should be at once buried after disinfection.

The diet during convalescence should be light, easily digested and nutritious.

For the secondary fever and the complications which may arise, such as chronic diarrhœa, dysentery, pneumonia and typhoid fever, the remedies called for are such as are indicated for the various symptoms which may arise.

It is claimed that the Homeopathic treatment is much the most successful. I have no statistics at hand save those of Dr. Pulte, of Cincinnati. He claimed to have saved, in 1849, 1,081 patients out of 1,116, undoubted cases of cholera, and 1,350 cases of cholera with no loss. His treatment was *Camphor* in the first stage, *Veratrum* in the second, with *Cuprum* if the cramps were in the bowels. In collapse, *Arsenicum* and *Carbo veg.* This is an astonishing success, as the patients were first seen in all stages of the disease.

CHOLERA MORBUS OR SPORADIC CHOLERA.

This disease in modern treatises is called sporadic cholera to distinguish it from epidemic or Asiatic cholera. But the old name of cholera morbus will probably be retained in common use.

The attack sometimes comes on suddenly, but is oftener preceded by a feeling of weight and oppression in the epigastrium with nausea, rumbling in the bowels and colic pains. The distress and nausea increase until vomiting ensues, which is soon followed by diarrhœa. The contents of the stomach and intestines are first evacuated. Afterward the matter vomited is liquid, acid, acrid and strongly tinged with bile. The stools are also liquid, acrid and excoriating. The attacks of vomiting and purging come on suddenly and are very violent. There are often violent cramping pains, and the abdominal muscles are contracted into hard bunches or knots which are very painful. There is also great thirst and dryness of the mouth.

With the other symptoms there is prostration, anxiety and restlessness proportioned to the severity of the attack. In severe attacks the countenance appears shrunken, the pulse is small and feeble and more rapid than usual, the body is covered with a clammy perspiration, the voice is feeble and husky. Occasionally there are cramps in the calves and feet. The disease runs a rapid course. If the disease runs a favorable course, in a few hours the vomiting and purging decrease in violence and frequency, the pains subside, the pulse gains in volume, the cramps disappear, until they cease entirely and the patient is convalescent, but with a sense of exhaustion and weakness, and if the cramps have been severe a feeling of soreness in the muscles affected remains for some days. If the disease should progress unfavorably the vomiting and purging continue, the pulse becomes

more feeble, the features pinched and shrunken, the extremities cold and the patient dies in a state of collapse.

Causation.—The causes are continued high temperature, errors in diet, as the eating of unripe fruit, raw vegetables, tainted meat, excessive indulgence in ice-cream or ice-water, or largely eating food which disagrees with the stomach. It is of rare occurrence except in the summer months.

Diagnosis.—The diagnosis is generally easy. The only liability to mistake is in confounding the disease with the effects of poisons. As examples, I mention the effect of *White lead*, *Sulphate of Zinc* and *Arsenic*. The acute burning pain in the stomach from the corrosive action of poisons is a means of discrimination.

Prognosis is favorable. Death rarely ensues from this disease.

Treatment.—The remedies are *Veratrum alba*, *Podophyllum*, *Camphor*, *Arsenicum*. The relative frequency with which I have used them is in the order named.

The symptoms more particularly indicating *Veratrum* are violent vomiting and purging, pulse frequent and feeble, countenance sunken and pale, thirst. Evacuations are light colored or resembling rice water discharges.

Podophyllum is useful when the vomiting is not so severe, the discharges of a dirty looking fluid and unattended with pain.

Arsenicum has nearly the same symptoms as *Veratrum* with the addition of great prostration at the commencement, with burning pain in the stomach and intense thirst, tongue dark and dry, great anguish and restlessness.

Camphor is more particularly indicated in cramps of the abdominal muscles and in the arms and legs.

Iris once in fifteen minutes as an intercurrent remedy when the vomiting is very persistent, is of great service.

In this disease you will need to give the remedy often. I use the 2d cent. of *Veratrum* and *Podophyllum*; the 3d trit. of *Arsenicum*, and the *Tinc. of Camphor*, giving a dose of the medicine every ten or fifteen minutes until relief is obtained. I prepare the *Camphor* by pouring five drops of the tinc. on a tea-spoonful of sugar, mixing it well and then dissolving the whole in three ounces of water, giving a tea-spoonful of the mixture at a dose. The sugar acts as a catalytic agent to dissolve the *Camphor* in the water. The diet, for some days after convalescence, should be bland and unirritating.

CHAPTER IV.

DYSENTERY AND ENTERITIS.

DEFINITION—PATHOLOGY—CATARRHAL AND EPIDEMIC DYSENTERY—
SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. EN-
TERITIS—SYMPTOMS AND TREATMENT.

DYSENTERY.

(*Synonyms, FLUX, BLOODY FLUX.*)

Definition and Pathology.—Dysentery is an inflammation of the mucous membrane of the large intestines with dejections of blood and mucus. The disease may be acute, subacute or chronic. It is also sporadic or catarrhal and epidemic. In mild cases the inflammatory action is not very acute and not widely diffused. It runs a brief course, and is seldom attended with danger to life. Such was the character of the dysentery prevailing in 1876 in Iowa. It was very prevalent, but very few cases proved fatal. In severe cases an examination after death shows the mucous membrane to be reddened, swollen and softened, showing lesions of ulceration and destruction of the mucous membrane. The ulcers are sometimes of considerable size.

The swelling is due to infiltration, and is sometimes so great as to cause projections like excrescences. Patches of coagulable lymph are found scattered over the surface of the intestines. The contents are similar to the stools prior to death, consisting of shreds of mucous membrane, pus, mucus, fibrin, etc. The greatest amount of inflammation is in the upper part of the rectum and in and above the sigmoid flexure.

Symptoms.—The disease is usually preceded by a diarrhœa, the stools commonly containing fecal matter. In addition there is a general sensation of illness, with impaired appetite and some colic pains. Next the stools are mucus mixed with

blood in which there is occasionally some fecal matter. The discharges are small and frequent, and usually preceded by colic pains. There is generally more or less tenesmus during and after each evacuation. At times the stool is a jelly-like mass intimately mixed with blood, and it is often compared to the scrapings of the intestines of hogs. A small quantity of bloody fluid is also frequently passed. It looks like water in which raw meat has been soaked. The tenesmus is so great at times as to cause an almost constant desire to evacuate the bowels. This straining and the colic preceding the discharges are the chief source of pain. The pulse is not very rapid, especially at the outset of the disease. A rapid and full pulse indicates a high degree of inflammation. As a rule the relative frequency denotes the gravity of the case. The heat is not much increased except in severe cases. The tongue is more or less coated. Thirst is usually present. Delirium is scarcely ever observed. If the disease progresses favorably the dejections gradually assume a normal character, the appetite returns, the fever disappears. The duration of the disease is from four to twenty days. There are, however, exceptional cases in which all the symptoms are much more intense and which resemble epidemic dysentery.

In this last the course and symptoms of the disease resemble very much those of sporadic dysentery. The disease is of a more intense character and the anatomical lesions more extensive and severe. The disease extends over a larger portion of the large intestines, and sometimes reaches the ileum. Ulcerations and exudations of false membrane are more apt to occur. In epidemic dysentery the general symptoms indicate a severe attack upon the vital forces. The pulse is more frequent and feeble, the prostration greater, the tongue brown and coated, the thirst great. The discharges in severe cases are, in addition to the mucus and the blood, a bloody water which I have once described, the presence of which indicates danger. The intellect is generally clear, but in some cases there may be mild delirium. Occasionally the disease assumes a typhoid type. The duration of the disease is variable. In malignant epidemics the disease sometimes runs a very rapid course, proving fatal in a day or two. In recovery during epidemics of this type the disease is likely to run a protracted course and convalescence to be slow. It is impossible to fix any definite period for the duration of the disease as epidemics vary so much in severity. These malignant forms of dysentery are more common to hot

than to temperate climates. They are particularly destructive to armies, especially in camps.

Diagnosis.—The character of the discharges sufficiently indicate the nature of the disease. I have known it to be confounded with hemorrhoids, but such a mistake does not show much discrimination on the part of the practitioner.

Prognosis.—In sporadic dysentery the prognosis is decidedly favorable. Severe cases terminating in death are occasionally met with, but these are exceptional. The tendency is toward recovery. In epidemic dysentery the prognosis depends upon the severity and malignancy of the epidemic. In some epidemics a large percentage die. In ordinary epidemics a large proportion recover.

When the disease becomes chronic it is very intractable. There is usually atrophy of the mucous membrane, with degeneration of the glands. Imperfectly cicatrized ulcers remaining in the mucous coat of the cæcum, colon or rectum prove sources of constant irritation. Many recover, but others gradually waste away; the skin is harsh and dry, the discharges are fecal matter mixed with sanious pus, there are constant griping pains and tenesmus, and the patient at last dies completely exhausted by his sufferings and the constant drain upon his system.

Causation.—Dysentery has been ascribed to the action of wet and cold, to contagion, to malaria, to drinking impure water, to crowding of masses of men together in unfavorable localities as barracks and transport ships, to insufficient and innutritious food, to vitiated air in crowded tenement houses, and to some specific miasm or germs. It is apt to occur when malarial fevers are most rife. It is probable that not one, but a variety of causes operate to produce an epidemic of it.

Treatment.—First, as to local applications: I have been in the habit of giving injections of *warm* or *cold water*, whichever is most agreeable to the patient. Also injections of *Starch* or *Flax-seed* emulsion as a soothing application, and to cover the inflamed and irritable membrane of the rectum. If the tenesmus is excessive I put from five to ten drops of *Laudanum* in the *Starch* or *Flax-seed* injections to allay the irritability of the muscular fibers, so as to relieve the severe tenesmus.

The medicines I have found most useful are *Aconite*, *Bel-ladonna*, *Colocynth*, *Mercurius sol.* and *corrosivus*, *Nux*, *Protiodide of Mercury*, *Ipecac*, *Cantharides*, *Nitric acid* and *Carbo veg.*

When the fever and inflammatory action are severe, it is best to give a dose of *ACONITE* once an hour until there is a remission of the fever.

One writer on dysentery asserts that the patients who take *Aconite* every hour for the first twenty-four hours make a more speedy recovery than those who do not take it. This is rather a sweeping assertion, for I doubt its efficacy in mild cases with little or no fever.

BELLADONNA is more useful for certain general conditions than for the specific complaint. It is indicated, when there is headache with cerebral congestion, face flushed, tongue dry, with red edges, distended sensitive abdomen. It is chiefly valuable as an intercurrent remedy.

COLOCYNTH is specially indicated when the colic pains are very severe, of a twisting, grinding character, causing the patient to bend double; evacuations bilious and slimy, bitter taste in the mouth, great thirst, shooting pains on one side of the body. Often indicated in alternation with *Mercurius sol.*

MERCURIUS in its various forms is the leading remedy in dysentery. In one epidemic *Merc. sol.* proves curative; in another, *Merc. corr.*

The symptoms calling for the use of *MERC. SOL.* are: frequent small passages of mucus mixed with blood, mixed occasionally with fecal matter, stools green and bloody, tormina and tenesmus not very severe, fever moderate as well as thirst, tongue slightly coated. *Merc. sol.* is better adapted to sporadic dysentery and is seldom indicated in malignant types.

MERCURIUS CORROSIVUS is indicated when the tenesmus is excessive, discharges very frequent, consisting of bloody mucus, like the scrapings of a hog's intestines, flaky particles in the stools, cutting pains in the intestines, long continued and severe tenesmus, with scanty discharges of bloody mucus, great thirst, restlessness.

I once attended a lady who had been poisoned with *Corrosive mercury*. The symptoms were like a very severe attack of dysentery, except that she had frequent attacks of vomiting, from the effects of the corrosive poison on her stomach. In severe cases of dysentery I rely almost wholly upon it, giving it in frequent doses until amelioration begins.

In 1877 I had a very bad case of dysentery. The patient was a delicate girl, eleven years of age. The symptoms called for *Merc. sol.*, but failing to relieve with that, and the tenesmus

becoming severe, I next gave *Merc. corr.* This relieved the tenesmus but the general condition was not improved, and I began to fear I would lose my patient. Suspecting diphtheritic exudation in the intestines, I thought I would give *Protiodide of Mercury*. In a few hours my patient began to improve and in three or four days was convalescent. The child had had some severe attacks of diphtheria, and the knowledge of this led me to prescribe *Protiodide*. I believe it will prove a valuable remedy in many cases of dysentery with exudation.

Nux is useful when there is a constant disposition to stool with inability to pass anything but a little mucus, or when small, roundish lumps of fecal matter are found in the stools. It is also useful in dysenteries of an intermittent type. I once had a patient who had dysenteric stools every other day. On my second visit he was apparently well, but the third day brought a recurrence of the attack. *Nux* cured the case.

CANTHARIDES is useful when the dysentery is complicated with irritation of the urethra and neck of the bladder, causing dysuria. You will frequently meet with this complication.

Sometimes the dysuria is caused by spasmodic action of the muscular fibres of the urethra, in which case *Belladonna* is the better remedy.

IPECAC is indicated in autumnal dysenteries with much nausea and vomiting, with loss of appetite, mucous stools, or that variety which is called mucous dysentery, which is more like catarrh of the large intestines.

NITRIC ACID is better adapted to the subacute and chronic varieties of the disease, especially in ulceration of the bowels with discharge of pus. Other symptoms are: constant pressing in the rectum with very slight discharge, small fluid evacuations passing off with difficulty.

CARBO VEG. is valuable in the adynamic form of the disease with much prostration and putrid evacuations.

Rhus tox. is indicated in typhoid complications, with stools passing involuntarily, incontinence of urine, tongue brown and covered with sordes.

Other remedies are recommended; as *Sulphuric acid*, *Sulphur*, *Plumbum*, *Dulcamara*, *Veratrum*, *Arsenicum*, etc. Cases may occur in which each one may prove curative of the disease, but they have no well defined relation to it, and it would be difficult to point out their adaptability. The diet should be carefully regulated and only food with very little

waste matter should be allowed until convalescence is well established. Milk, broths, gruels, corn-starch, toast-water, etc., are admissible articles of diet.

ENTERITIS.

This is understood to mean inflammation of the small intestines, as distinguished from dysentery which is usually confined to the large intestine. It is a disease belonging more particularly to infantile life, but is occasionally met with in adults and children. The pathological anatomy shows redness and thickening of the mucous membrane. Softening also occurs and infiltration of the submucous tissues. The intestine is found coated with mucus. The disease is generally limited to the ileum, although occasionally involving the colon, in which case it may be designated enterocolitis.

Symptoms.—Pain and tenderness over the abdomen, with fever, the pain and fever more or less intense according to the severity of the attack. The pain is more persistent than in colic. Diarrhoea is generally present, the stools being thin, acrid, watery and mucous. If the disease is confined to the upper portion of the ileum there may be constipation instead of diarrhoea. In severe cases there may be tympanites and vomiting of fecal matter, and great thirst, small and feeble pulse, dry tongue. Excluding that form of the disease peculiar to infants, and which has been considered under the head of cholera infantum, we will consider its course and treatment when occurring in children and adults.

Diagnosis.—The disease arises from excess in eating and drinking and from sudden cooling of the body when heated. The complaint may be confounded with colic, gastritis and dysentery. It is sometimes very difficult to discriminate, especially as enteritis may be coincident with gastritis and dysentery. The location of the pain and tenderness, and the character of the evacuations serve to distinguish it from dysentery. Colic is seldom attended with fever, so this disease may be readily excluded in the diagnosis.

Prognosis.—The prognosis is favorable. Only occasionally does the disease end fatally.

Treatment.—Topical applications of *tepid water* are of benefit. In severe cases, in which there is persistent constipation, nothing is to be gained by any active means to evacuate the bowels. The constipation is the result of the swelling and irritation, retaining the feces by spasmodic constrict-

tion of the affected parts. Repeated enemata of warm water may do good and are soothing and relaxing in their effects.

The remedies for this disease are *Aconite*, *Bryonia*, *Colocynthis*, *Mercurius*, *Nux vomica*, *Belladonna* and *Arsenicum*.

Hartmann strongly recommends *ACONITE* in this disease and asserts that it completely corresponds to every phase of it. He recommends doses at long intervals. I find in Allen that *Aconite* corresponds to the following symptoms of the disease: Sensitiveness of abdomen, burning sensation in umbilical region, painful tension of abdomen, pains in the upper abdomen, diarrhoea of thin fluid, watery diarrhoea, constipation for several days. In the first stage of the disease, especially if there is much fever and heat, *Aconite* will prove of great benefit.

MERCURIUS is indicated when the disease also invades the colon, with dysenteric evacuations.

ARSENICUM.—Diarrhoea, soreness, burning pains, pulse small and feeble, retching and vomiting, great thirst, abdomen distended.

NUX VOMICA.—When in addition to the pain and tenderness there is persistent constipation.

LYCOPODIUM may prove useful in the disease when there is constipation with rumbling and distension of transverse colon.

BRYONIA.—When the serous coat of the intestine is involved in the inflammatory action, or if there is reason to suspect plastic exudations in the intestines.

It is a rare affection and seldom occurs in practice.

CHAPTER V.

GASTRITIS, ULCER OF THE STOMACH, CARCINOMA
OF THE STOMACH.

GASTRITIS—SYMPTOMS—TREATMENT. ULCER OF THE STOMACH—SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT. CARCINOMA OF THE STOMACH—SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT, PALLIATIVE AND CURATIVE.

GASTRITIS

MAY be either acute, subacute, or chronic. Acute gastritis is a rare disease, except as the result of corrosive poisons. It may occur after a prolonged debauch or from the effects of too copious draughts of ice-water. The pathological appearances are intense redness of the mucous membrane of the stomach, with thickening and softening; the surface is covered with mucus. In poisoning there is sloughing off of patches of the mucous coat, and if not recent, scars and ulcers are seen.

Symptoms.—Acute, burning pain in the epigastrium, painful sense of constriction, with pain during inspiration from pressure of the diaphragm upon the inflamed organ. There is also persistent vomiting, the smallest quantity of the blandest substances being speedily ejected; vomiting is extremely painful. The matter vomited is serous and mucous, mixed with bile. The thirst is generally very great, and even the great pain attending vomiting cannot deter the patient from drinking. There is great sensitiveness to pressure over the stomach, even the pressure of the clothing is painful. The pulse is accelerated and weak. The temperature is increased, but not in a marked degree. The bowels are constipated, except in the case of certain poisons. Difficult deglutition and change of voice are present in poisoning from the corrosive action of the poison on the pharynx and glottis. The tongue is frequently red. The countenance as-

sumes an anxious, haggard appearance. In favorable cases the pain and vomiting subside, the pulse becomes less frequent and grows stronger and the respiration more easy. But if, on the contrary, the disease assumes a fatal tendency, the vomiting becomes dark, like coffee grounds, and is ejected without much effort, the prostration becomes great, the surface of the body cold, the pulse thready and almost imperceptible. Hiccoughing is also present and the patient dies from exhaustion. The disease usually runs a rapid course. I saw one case from poisoning with *Corrosive sublimate*. To the gastritis was added enteritis and dysentery; death occurred in seven days.

Diagnosis.—There is not much possibility of mistaking the disease for any other. The characteristic features are too pronounced. An instance is on record, however, in which a case of meningitis was mistaken for, and treated as, gastritis in consequence of the persistent vomiting, and the mistake was only discovered by a post-mortem examination. It is possible also to overlook the disease when occurring after a protracted debauch.

It is important as regards the treatment to ascertain whether the disease is a consequence of poisoning or originates from other sources. The symptoms in the mouth and throat often enable us to discriminate between the two. Poison also develops the disease very suddenly.

Prognosis is unfavorable.

Treatment.—In case of poisoning, of course the first thing to be done is to administer the appropriate antidote. The remedies most suitable for gastritis are *Arsenicum*, *Veratrum*, *Pulsatilla*.

ARSENICUM is the main remedy. The burning pain, tenderness, painful inspiration, intense thirst, persistent painful vomiting, are all characteristic symptoms of this medicine. In the few cases of this disease which I have treated I have used *Arsenicum* chiefly. In the last stage of the disease, with vomiting of coffee-ground fluid, hiccough, hippocratic countenance, it is possible the *Veratrum* or *Carbo veg.* may do good.

PULSATILLA in mild cases, if the disease has been induced by hearty eating of crude, indigestible food. I think, however, I should first unload the stomach by means of an active emetic. In a case of this kind, of a negro, caused by an enormous meal of green corn, the prompt administration of an emetic, and consequent unloading of the stomach, was fol-

lowed by speedy relief. In this instance heroic treatment was desirable.

ANTIMONIUM CRUDUM is adapted to the subacute form occurring in drunkards.

SUBACUTE GASTRITIS

Not infrequently occurs in practice. It is called by some writers catarrhal inflammation of the stomach. It frequently occurs in the course of dyspepsia and then becomes a special consideration in the treatment of that disease. It is more common in infants and young children than in adults. The disease varies much in intensity, being more or less severe according to the amount and extent of the inflammation. The symptoms are impairment of appetite, uneasiness and distress after eating, with flatulency, eructations and feeling of fullness and heaviness, thirst, tenderness on pressure, tongue furred, whitish yellow, constipation, or, if there is intestinal disturbance, diarrhœa. Headache is frequent, and when accompanied with nausea, of the variety called sick headache. The pulse is weaker than the normal standard, and the extremities are generally cold. Sometimes there are febrile exacerbations. There is a general feeling of debility and discomfort. These symptoms are all increased in intensity in the severe cases of the disease. In addition there is complete loss of appetite, and vomiting is frequent. In cases attended with much fever the complaint is called gastric fever. Causes are, overloading the stomach, especially in cases of weak digestion, free use of alcoholic stimulants, free use of ice-water. The prognosis is favorable.

Treatment.—A proper attention to diet is an important element in the treatment. The stomach needs rest, and the most bland and unirritating articles of food must be used. All stimulating food and drink must be carefully avoided. The topical use of warm fomentations is useful. The remedies are those I have already mentioned for acute gastritis, with the addition of *Carbo veg.* The last is valuable in prolonged persistent cases of a rather mild type, where there is constant uneasiness at the epigastrium, aggravated by eating.

ULCER OF THE STOMACH.

In connection with gastritis it is well to consider this affection. It is of more common occurrence than is generally supposed, being found, according to one authority, in five per

cent of 2,330 autopsies, or one in every twenty examined, about half being scars of ulcers that had healed. The size of the ulcers varies considerably, being from the size of a split pea to that of a silver dollar. The appearance is as if a portion of the tissues had been punched out. It is liable to eat through the several coats of the stomach, and is known as the perforating ulcer. As the erosion continues the ulcer becomes more irregular in shape, and as it penetrates beyond the mucous coat it assumes a funnel shape. It is generally found near the pyloric orifice.

Symptoms.—The symptoms are pain, tenderness, vomiting and hemorrhage from the stomach. The pain is of a gnawing, burning character and is referred to one spot. It is worse after eating, and continues until the food has passed out of the stomach. The tenderness on pressure is also confined to a small space referable to a spot near the pylorus. Vomiting occurs after eating food, and is more apt to occur if the food be highly seasoned, or is of an indigestible character. The vomiting is usually followed by a sense of relief. The vomiting as well as the pain after eating are undoubtedly due to the pressure of the food upon the ulcer as well as by the irritation of the gastric juice which is then poured out. The hemorrhages occur soon after the ingestion of food. If immediately after, the blood may be quite pure, but if some time elapses it is dark and grumous from the action of the gastric juice. Hemorrhage is more apt to accompany the small perforating ulcer.

Diagnosis.—The diagnosis is rather difficult unless great care is exercised. The particular diagnostic points are: the pain being aggravated immediately on taking food, vomiting occurring also soon after, tenderness confined to one particular spot, the burning, gnawing pain also referable to a small space, the hemorrhages, the relief following vomiting, and the passing of the food from the stomach. These symptoms, all combined, make the diagnosis tolerably certain.

Prognosis.—The prognosis is uncertain. A fair proportion recover, as shown by the *post-mortem* statistics I mentioned. But we are never certain of a cure on account of the liability to perforation and dangerous hemorrhage. Death may occur from peritonitis in consequence of perforation of the coats of the stomach, the contents of the stomach escaping into the abdominal cavity. Perforation may occur without death in consequence of adhesions between the stomach

and adjacent tissues. Death may also occur from hemorrhage. The stomach is the seat of many and large blood-vessels.

The patient may starve to death. The stomach may be so intolerant of the presence of food as to constantly reject it. Injections per rectum may prolong life but cannot save it.

The duration of the disease varies. It may be fatal in a few weeks from perforation or hemorrhage, or it may exist months, and even years.

The patient may apparently get well, and the symptoms afterwards return. This is probably owing either to the ulcer healing over and afterwards breaking out again, or to the formation of a new ulcer.

Causation.—The causation is obscure. The disease occurs oftener in middle life. Virchow attributes it to obstruction of some arterial branch, and consequent destruction of the part supplied by it. It may also be due to some degeneration of the system, as the disease oftener occurs in persons with impaired constitutions. The round, perforating ulcer occurs oftenest in young girls.

Treatment.—Strict attention to diet, and regular habits of life, are very essential in this disease. All stimulants and stimulating food should be avoided. Milk and farinaceous food are the best articles of diet. Not much food should be taken at a time, but only the amount that the stomach will tolerate. The best plan is to eat but little at a time, but to eat oftener than is necessary in health. Experience is the best guide as to the quantity which may safely be taken at one time. Rest and quiet during digestion are desirable.

The medicines best adapted to the disease are *Argentum nit.*, *Carbo veg.*, *Lachesis*.

It is difficult to select a remedy unless we are guided almost entirely by the subjective symptoms. I shall not try to give the indications for each remedy.

From the known effects of ARG. NIT. I should expect better results from its use than from any other medicine.

ATROPINE has been highly recommended for relieving the burning, gnawing pain, and for allaying the irritability of the stomach, and thus preventing the vomiting following the ingestion of food. A powder of the 3d dec. trit. after each meal.

CANCER OF THE STOMACH.

In a record of 9,118 deaths from cancer in Paris, from 1830 to 1840, the disease was seated in the uterus in 2,906

cases, in the stomach in 2,303, in the breast in 1,149, and 2,761 in various other localities. This analysis shows that cancer of the stomach occurs second in frequency. It is most frequently located at the pyloric orifice. When situated at this point it causes obstruction to the passage of digested food from the stomach, and, in consequence, it becomes greatly enlarged. The disease is about equally common to either sex, and generally occurs after forty. The most common form of cancer of the stomach is scirrhus. The disease lasts from one to three years.

Symptoms.—The symptoms greatly resemble those pertaining to ulcer of the stomach, especially after the disease has made some progress. At first they may simply resemble those of dyspepsia. As the disease progresses the symptoms become more pronounced. Pain in the epigastrium of a burning, *lancinating*, gnawing character, more general than the pain of ulcer, increased by eating, tenderness on pressure, retraction of the abdominal walls, eructations of fetid flatus, nausea and vomiting, first of food, afterwards of a glairy mucus, and later of a sanious liquid, or of a dark grunous substance like coffee grounds. Constipation is generally present.

In the majority of cases a tumor may be felt near the pyloric orifice varying in size from a pigeon's egg to an orange. It is hard, resisting and nodulated.

If the cancer is situated at the cardiac orifice of the stomach there is pain, distress and difficulty during the passage of food into the stomach, and the difficulty is sometimes so great as to cause death from inanition. Food can only be ingested slowly, and in a liquid form. If at the pyloric orifice, the pain is greater some hours after eating, while the chyme is passing into the duodenum.

In cancer of the stomach perforation at times takes place. If into the cavity of the abdomen, death ensues from peritoneal inflammation, but, as in ulcer, adhesions are formed, and perforation takes place into the stomach, colon or other structures. As the disease progresses the emaciation and debility become extreme, and the patient dies of asthenia. Cancer is an hereditary disease, but otherwise we know nothing of its causes. It generally occurs after middle life.

Diagnosis.—Cancer of the stomach may be mistaken for ulcer. The two diseases have many points in common. The peculiar cachectic hue and expression characteristic of cancer; the discovery of a tumor; the stinging, lancinating pain

serve to distinguish cancer from ulcer. Age is also to be considered; ulcer, especially the perforating ulcer, occurring in young girls. A tumor, if present, helps the diagnosis, but will need to be discriminated from aneurism.

An aneurism is fixed, smooth and pulsating, communicating a thrill to the hand on examination. The impulse of the aorta may simulate pulsation, in a cancerous tumor, but by turning the patient on the face, thus removing the pressure, pulsation will no longer be perceived.

Prognosis.—The prognosis is decidedly unfavorable. Few survive the assaults of cancer in any locality, fewer still when it is situated in the stomach. We have a few remedies of alleged efficiency in cancer, but my comment upon such alleged cures would be, diagnosis not correct.

Treatment.—The remedies are *Arsenicum*, *Lapis*, the last a remedy introduced by Dr. Lippe as a specific for cancer.

CUNDURANGO was much lauded for its reputed virtues a few years ago, but seems to have fallen into disuse. If I have a case of cancer to treat I do not neglect all the means which my knowledge of the *materia medica* gives me, but I give palliatives for the pain, and narcotics for the sleeplessness.

I do not think we need hesitate to give OPIUM, MORPHINE and ATROPINE freely in this terrible malady to diminish the intensity of suffering.

ATROPINE, 3d dec. trit., is very useful in allaying the burning, gnawing pain. Our literature abounds in remedies for cancer, but I do not have much faith in any of them as curative agents.

I should think myself derelict in my duty if I allowed my patient to suffer, without relief from sedatives, while I was trying to cure the patient with *Arsenicum*, *Lapis alba*, *Lachesis* and other medicines.

CHAPTER VI.

ILEUS OR INTESTINAL OBSTRUCTION, FECAL ABSCESS, PROLAPSUS ANI, HEMORRHOIDS.

ILEUS—VARIETIES OF—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.
 INFLAMMATION OF CÆCUM—FECAL ABSCESS—CAUSATION—TREATMENT.
 PROLAPSUS ANI—CAUSATION—TREATMENT. HEMORRHOIDS—CAUSATION—TREATMENT.

ILEUS OR INTESTINAL OBSTRUCTION.

THIS may occur from several conditions, as invagination, stricture, from concealed or external hernia, or strangulation from a twisting of the intestine on itself. The most frequent of these causes is strangulated hernia, and we should first examine the patient carefully to ascertain if this be the cause of the obstruction. Dr. Haven has collected the histories of 258 cases of obstruction, and he has classed them in three divisions:

1st. Intermural, or within the tube of the intestines, as cancerous and non-cancerous stricture and intussusception.

2d. Extra mural, as bands of adhesions from effusion of lymph, twists, external tumors or abscesses, mesocolic and mesenteric hernia, diaphragmatic hernia, omental and obturator hernia.

3d. Foreign bodies, hardened feces and concretions.

In the first class the large intestines are chiefly affected; in the second and third, the small. Of 169 examples 63 were invagination or intussusception; 60, constriction; 19, disease of the coats of the bowels; 11, hardened feces and concretions; and 16, pressure of tumors.

Intussusception generally occurs at the lower part of the ileum; that and the cæcum slipping into the colon. In most cases, wherever it occurs the upper portion slips into the lower. Reduction may take place spontaneously; if not, adhesion occurs, and if the passage is not closed by the swell-

ing inflammation may not take place for some time. In time gangrene occurs, the gangrenous portion sloughs off, and may be discharged per anum, and if adhesions have taken place the patient may recover. In cancerous stricture the obstruction occurs in the rectum or sigmoid flexure. In this case the passage gradually and slowly narrows before occlusion takes place. The history of the case, and digital examination, reveal the cause of the obstruction.

Symptoms.—Severe pain at the seat of the obstruction, tenderness on pressure, persistent constipation, constant vomiting, first of the contents of the stomach and mucus, but afterward, of fecal matter, tympanites, hiccoughing, mental anxiety and distress. Sooner or later acute peritonitis sets in. The lower the obstruction the less severe will be the vomiting. The disease may last from five to twenty days. We may hope for recovery at almost any stage of the disease. The chances of recovery are less in intussusception than in any other variety of obstruction.

Diagnosis.—Intestinal obstruction needs to be distinguished from colic and acute peritonitis. It is claimed that the different varieties of obstruction can be accurately diagnosed, but I very much doubt if the average practitioner can discriminate between them. I have seen quite a number of cases of intestinal obstruction, and I do not know, except in one case, that I have ever been certain in my diagnosis. Young children are more liable to invagination than to other forms of intestinal obstruction. If the pain be located at or near the cæcum it increases the probabilities of invagination.

Obstruction may begin with colic pains, but the pain soon becomes persistent, and this, with the circumscribed pain and tenderness, exclude colic. The same symptoms, with the absence of general pain, tenderness, and rigidity of the abdominal muscles, exclude peritonitis.

Prognosis.—The prognosis is unfavorable, especially in invagination. If we could be certain from the beginning of the true nature of the malady, the chances of recovery would be increased, but at first the symptoms are not marked, and the case is apt to be mistaken by the patient and his friends for one of colic, and when the physician is called to the case, or ascertains the nature of the disease, the swelling makes reduction difficult.

Treatment.—Fomentations with warm water may be useful. All methods of forcing a passage through the obstruction by means of cathartics, should be carefully avoided. I

mention this because the patient and friends will be likely to insist upon this measure.

Injectons of warm water, or of air, per anum, by means of a long flexible tube, should be thoroughly tried. Perfect quiet should be enjoined.

The medicines from which we may expect benefit are few. *Nux vomica* has the power of relaxing the tension of muscular fibre, and it should be given.

Plumbum is also recommended.

I don't know of any medicines but *Nux* and *Opium* which I should employ. If these, with fomentations and repeated injections of warm water, or air, fail, I should despair of relief, unless, as sometimes happens in invagination, the obstructed portion sloughs away, leaving the sound portions glued together by adhesions. If this should occur great care should be exercised, that the adhesions be not broken up. Of course injections are no longer admissible nor necessary.

In extreme cases operations have been performed for relief, and portions of intestines have been cut away, and an artificial anus formed. The lower down the obstruction, the better the prospect of success.

Cases of partial obstruction from stricture of the intestines are sometimes met with. These may occur from pressure of tumors, cicatrization from ulcers, morbid growths within the intestines, or cancerous disease. This last is usually situated in the rectum or sigmoid flexure, and the nature of the obstruction can usually be ascertained by manual exploration, or inability to inject above the seat of the obstruction. Either liquefied fecal matter passes by the obstruction, or the feces assumes a flat ribbon-like appearance. The prognosis is equally, or more unfavorable than in obstruction from other causes.

I said before that a careful search should be instituted for strangulated hernia. If this should be the cause of the obstruction measures should be promptly taken, either to reduce the hernia or operate for the stricture. These measures belong rather to the province of surgery than to medicine.

OBSTRUCTION FROM ACCUMULATION OF HARDENED FECES.

This may occur in the rectum, the sigmoid flexure, or the descending colon. Its nature may be suspected when there is stoppage with absence of tenderness, pain and vomiting, or the presence of a tumor in the course of the intestines,

which can be handled without pain. If the mass is in the rectum it may be broken down with a spoon and removed, or it may be softened by repeated injections of warm water and molasses. Some ludicrous blunders have been made by mistaking these masses for tumors, especially in confinement.

Nux, *Opium* and *Plumbum* are the internal remedies. The cause is inertia of the intestines.

Impaction of the intestines takes place from indigestible masses or foreign bodies lodging in the course of them. I knew one case of impaction to result from eating freely of green chestnuts. Grape seeds, gall stones and other substances sometimes cause obstruction.

The treatment is the same as in the case of hardened feces.

Some authors regard certain cases of obstruction as purely functional, owing to spasmodic constriction of the intestines. The symptoms resemble those of mechanical obstruction; that is, there is pain, vomiting of ingesta having fecal odor, and prostration. This kind of obstruction may be conjectured if the patient is subject to attacks of hysteria.

Treatment.—We should employ the same method of treatment as in the other forms of obstructions. The local measures are *warm fomentations* and *injections of warm water*.

Nux, *Colocynth*, and possibly *Moschus*, are the best internal remedies.

Moderate inhalation of *Chloroform* sometimes promptly relieves the patient.

INFLAMMATION OF THE CÆCUM, FECAL ABSCESS.

Inflammation of that portion of the intestines between the ileum and colon, also called *typhlitis*.

Acute inflammation of the cæcum generally ends in recovery, but in subacute or chronic cases fecal abscess may follow.

Symptoms.—The symptoms are circumscribed pain and tenderness; diarrhœa is generally, but not always, present. If the peritoneum covering a portion of the cæcum is inflamed the pain and tenderness are more marked, and distension of the intestines from accumulation of gas takes place; vomiting, in some cases, is present; the pulse is accelerated.

Diagnosis.—The diagnostic points are the circumscribed pain and tenderness in the right iliac region.

Treatment.—The remedies are *Belladonna*, *Mercurius sol.* and *Lachesis*.

BELLADONNA is indicated when the peritoneal coat is involved. The symptoms are: great pain in the ileo-cæcal regions, tenderness, limbs drawn up to relieve the tension of abdominal muscles, nausea, considerable fever, rapid pulse.

MERCURIUS SOL.—Pain and sensitiveness to touch, moderate fever, diarrhœa.

LACHESIS is indicated in the variety of the disease called peri-typhlitis, in which the inflammation extends to the loose connective tissue surrounding the cæcum.

Belladonna and *Mercurius* have proved curative in all the cases I have treated.

If the inflammation extends to the peritoneum, and general peritonitis results, we shall need to employ the same remedies as are indicated in the article on peritonitis.

CHRONIC TYPHLITIS AND FECAL ABSCESS.

Chronic typhlitis may result in ulceration of the intestines, adhesion to the abdominal wall and perforation of the intestine, and subsequent formation of an abscess in the abdominal walls containing pus, gas and the contents of the intestine. The abscess gradually approaches the surface, and either discharges spontaneously or is opened by an incision, establishing a fistulous communication with the intestine, which either remains permanently open, or gradually closes and heals over.

Causes.—The causes are tuberculosis, impaction of foreign bodies, and, in some instances, extension of inflammation from the right ovary.

Diagnosis.—Fecal abscess may be confounded with abscess of the abdominal wall, enlarged ovary and disease of the hip-joint. Tympanitic distension and crepitation on pressure, from the presence of intestinal gas, are diagnostic points. Exploration with hypodermic syringe is also a valuable means of diagnosis.

Prognosis.—The prognosis is not very favorable. If the abscess discharges its contents into the cavity of the abdomen death is certain to ensue; if through the abdominal walls, an artificial anus is the result, with all its disagreeable accompaniments. Recovery may take place either by spontaneous closure of the sinus, or as the result of surgical interference.

In abscess of the appendix vermiformis the prognosis is even still more unfavorable.

Treatment.—As soon as fluctuation is detected the abscess should be opened, when there will be an escape of fetid gas, pus and fecal matter.

The abscess should be syringed with *carbolyzed water*, and a compress applied to prevent hernia.

SILICIA may be given twice a day.

PROLAPSUS OF THE RECTUM.

This is of two kinds. The first, where only the mucous membrane protrudes; the second, where all the coats of the intestine are prolapsed, sometimes to the extent of five or six inches.

Prolapsus is most frequently seen in strumous, debilitated children. The causes are relaxation of sphincter ani, constipation, straining at stool, chronic diarrhœa, ascarides. The protrusion is liable to increase after each act of defecation, sometimes occurring after any unusual effort, so that the prolapse is almost constant. In the latter case the mucous membrane is congested and swollen, the sphincter relaxed, and the surrounding tissues soft and flaccid.

Treatment.—The protrusion should be promptly replaced after defecation. If the bowels protrude to any great extent care and patience must be exercised. The protruding mass should be oiled, and gently and steadily pressed back. A pad of lint should then be applied, and a broad piece of adhesive plaster placed across, drawing the buttocks together.

The remedies are *Podophyllum*, *Nux vom.*, *Hydrastin*, *Hamamelis*.

PODOPHYLLUM is indicated when the prolapsus is in consequence of protracted diarrhœa, the bowel coming down with every stool, discharge of thick, transparent mucus, mixed with blood, after stool; prolapsus of long standing.

SULPHUR.—Prolapsus of mucous membrane, induced by constipation.

If other treatment fails, it has been recommended to take up small folds of mucous membrane, and tie ligatures tightly around them at the base; cut off the ends of the ligatures and push up the intestine. The patient is to be kept in bed until the ligatures come away.

Another method is to excise two or three folds of mucous membrane at the margin of the anus.

Nitric acid, *Caustic potash* and *Nitrate of Silver* have also been used to produce superficial sloughs on the prolapsed membrane. These operations belong rather to the province of surgery than to medicine.

HEMORRHOIDS.

The tumors known as hemorrhoids or piles are of two kinds, external, situated outside the sphincter muscle of the anus, and internal, or within the muscle. In many cases the two kinds are co-existent. They are seldom found until middle age, and are rather more common in females than males. The causes of these formations are sedentary occupation, prolonged constipation, pregnancy, free use of drastic purgatives, especially aloes, tumors in the abdomen, obstruction of the portal circulation, or any irregularity which impedes the onward flow of the venous blood from the rectum. The hemorrhoidal veins are numerous and tortuous, and it is in these that the tumors are formed. External piles are knots of varicose veins. These veins contain coagulated blood, giving the tumor a purple tinge. My treatment for many years has been to simply slit open the tumor with a narrow bistoury and remove the clot. This has proved effectual. It has been recommended to remove the tumor with scissors, but if too much integument is removed there is danger of contraction of the anus. Internal piles have a very different appearance. They are vascular spongy tumors, or else enlargement of the veins, filled with coagula. They bleed easily, a greater or less quantity escaping. Sometimes the loss of blood is quite serious, frequently enfeebling the patient. During defecation they are likely to protrude from the anus, and require to be replaced when the act is over. Sometimes the sphincter becomes dilated through constant pressure, or weakened from loss of blood, and then the tumors remain constantly down. At times they become so constricted that the patient is unable to replace, and the physician is summoned to do it for him. This is by no means an easy task when the tumors are very much swelled, and are tender and sensitive to the touch.

Treatment.—If obstinate in resisting remedial measures, and if very large, painful, and bleeding so much as to seriously impair the health of the patient, they should be removed by a surgical operation. But generally we can afford material relief, and in many cases cure our patient. The remedies are: *Hamamelis*, *Nux*, *Aloes*, *Sulphur* and *Lycopodium*.

Nux vomica is undoubtedly the most valuable remedy in piles. It is specially indicated in the disease which has been brought on or aggravated by the immoderate use of stimulating drinks, by a sedentary life, or mental labor in persons of sanguine temperament. The special symptoms are: large

tumors with burning, stinging pains, sensation of weight and fullness in the rectum, and obstinate constipation. I do not think *Nux* so well adapted to bleeding hemorrhoids as *Aloes* or *Hamamelis*.

I have used *HAMAMELIS* a good deal, especially in hemorrhoids attended with profuse discharge of blood. The bleeding occurs during or just after an evacuation. Symptoms are: profuse discharge of very dark blood, burning, soreness, fullness and weight, frequent urging to stool. I use the remedy locally as well as internally.

ALOES is indicated when there is constant slight tenesmus, with protrusion of the tumors; bleeding not so copious as in *Hamamelis*.

SULPHUR corresponds to *Nux* in many particulars, as constipation. There is urging to stool, with protrusion of the anus; pain in the small of the back, depression of spirits.

LYCOPodium is indicated in tumors of large size, spongy, but not very sensitive, constipation, mucous discharge at stool, rumbling in the intestines, liability of the rectum to protrude.

CHAPTER VII.

CONSTIPATION, COLIC, INTESTINAL WORMS.

CONSTIPATION—CAUSES—TREATMENT. COLIC—SYMPTOMS—DIAGNOSIS—
TREATMENT. INTESTINAL WORMS—SYMPTOMS—CAUSES—TREATMENT.

CONSTIPATION.

THIS may mean infrequent and difficult evacuations from the bowels, or not infrequent, but scanty, difficult stools.

The complaint is very common, and is incidental to many other diseases. It is seldom attended with any danger to life, or seriously impairs the general health, but is the source of much inconvenience and discomfort.

The complaint is situated in the large intestines. The anatomical arrangement of these are such as to retain a large quantity of fecal matter, thus avoiding frequent defecations. The contents of the large intestines move more slowly, because they are of greater consistence, the liquid portion being taken up in the small intestines, and also on account of the larger size of the colon, and its upward direction in part of its length.

The usual number of discharges from the bowels is one daily, but many persons go two or three days habitually; others have two or three evacuations daily. Habit and age have something to do with the frequency of the evacuations. Constipation, if habitual, gives rise to various morbid sensations, as a feeling of weight or pressure at the anus, abdominal distension or fullness, flatulency, and colic pains. Hemorrhoidal tumors are liable to form on account of the pressure of the accumulated feces. Violent straining to expel the feces may cause hernia, or, in the old, extravasation of blood into the brain.

Causes.—The causes of constipation are various. One of the most common is neglect in attending to the calls of nature at the proper time, and this is particularly the case with

females. An habitual neglect after a time paralyzes the sensibility of the parts so that the accumulation is no longer perceived, and this adds to the mischief. Another cause is the weakening of the abdominal muscles from frequent pregnancies, or from accumulations of fat; in anæmia there is loss of contractility of the intestines. Deficiency of bile is another cause; sedentary habits and dyspepsia are still others.

Treatment.—*First*, regular habits of going to the water-closet at a fixed time. This should be steadily adhered to, whether the going is followed by an evacuation or not. *Second*, enemas or suppositories. The daily use of one of these measures is frequently effectual. The best enema is warm water and molasses. Suppositories may be a piece of soap, cocoanut butter, or molasses candy. But unless a regular habit is formed of attending to this duty at a fixed time daily all other measures will be useless. Remedies are: *Bryonia*, *Nux*, *Opium*, *Plumbum*, *Lycopodium*, *Sulphur* and *Alumina*.

BRYONIA.—Stools *large*, dry and hard; only expelled after much straining.

NUX.—Constipation from deficient bile or from dyspepsia, constant desire for stool, with inability to pass anything, with hemorrhoids.

OPIUM.—Constipation, with evacuations of round, *hard*, *dry balls*.

LYCOPODIUM, in my hands, has been the most efficient remedy in constipation of infants. For constipation of adults *Lycopodium* is indicated when the stools are hard, sensation as if much remained, flatulence in the transverse colon, with sense of distension there, pain in the rectum after stool.

PLUMBUM.—Stools lumpy like sheep's dung, with severe constriction of anus, and much tenesmus.

SULPHUR is best adapted to that form where there is a daily stool, but hard, scanty and insufficient, with itching, burning, and stinging in the anus. Many physicians make a rule of prescribing *Nux* and *Sulphur*, in alternation, in nearly every case of constipation, *Sulphur* in the morning and *Nux* at night.

ALUMINA.—Inactivity of rectum, no desire until there is large accumulation, stools hard and knotty like sheep's dung, with cutting in anus, followed by blood.

I have aimed only to give the characteristic symptoms of each medicine. The accompanying conditions of each case will of course modify the treatment, but there will need to be examination in each individual case.

COLIC.

This primarily means pain in the colon, but it is generally understood to mean pain of a paroxysmal kind situated anywhere in the abdomen. Thus we may have hepatic colic from the passage of gall-stones, renal colic from the passage of renal calculi, uterine colic from spasmodic action of the muscular fibres of the uterus.

Intestinal colic may be situated in the large or small intestine, but more frequently in the colon. It is characterized by occurring in paroxysms, and the pain is of a twisting, grinding, griping character. It is a functional affection, as well as constituting a symptom of structural disease, as in enteritis, dysentery, etc.

Symptoms.—The symptoms of an attack of colic are paroxysms of pain, occurring at greater or less intervals; the pain is generally near the umbilicus, is frequently very severe, and is of a twisting, griping character. The abdomen is at times retracted, at times bloated. In one case the patient finds relief from lying prone, with pressure upon the abdomen; in another he doubles himself up to mitigate the pain. There is seldom any tenderness. The pulse is not usually changed; sometimes there is constipation, and at others diarrhoea. An attack very often ends with two or three copious evacuations. In severe cases the skin is cool, and covered with perspiration.

Diagnosis.—The diagnosis of colic is important, in that it is essential to determine a functional disturbance from a symptom belonging to some other disease. Enteritis has fever, and tenderness on pressure; colic has not. Dysentery is known by the character of the evacuations. Peritonitis has fever, and general tenderness and rigidity of the abdominal walls. Invagination of the bowels at first resembles colic, but soon reveals other symptoms not pertaining to it. I have heard that physicians have prescribed for labor-pains, supposing them to be colic. I came near being deceived myself once.

There are various terms used in describing colic, as bilious, flatulent, worm, etc. The pain is supposed to originate from spasm of the muscular fibres of the intestines, perhaps aggravated in certain cases by the distension of the tubes from incarcerated flatulence.

The causes of colic are unwholesome food, excessive use of unripe fruits and watery vegetables, the use of particular articles of food; as fish, cheese, old bacon, ham, etc., ferment-

tation of food in the intestines, causing an excessive accumulation of gas.

Treatment.—The remedies are *Colocynth*, *Plumbum*, *Nux vomica*, *Chamomilla*, *Podophyllum*, *Pulsatilla*, *Colinsonia*, *Dioscorea*, *Cina*.

COLOCYNTH is the chief remedy for colic. Symptoms are twisting, pinching pain around the umbilicus, the patient bends double with the pain; skin cold and covered with sweat, sensation of faintness, sickening pain, inclination to grasp objects.

PLUMBUM is indicated in colic with obstinate constipation, retraction of the abdomen, face and skin pale, violent pinching, constrictive pains, urgent desire to expel flatus, torpor and numbness of the limbs, desire to press the abdomen against something hard, hard lumps in the umbilical region.

NUX VOM. is useful in colic from indigestion, torpor of the liver, with clay colored stools, abdomen distended, hiccough, cramp-like pains in stomach and bowels, dizziness and headache.

CHAMOMILLA is chiefly used in the flatulent colic of infants and children. Symptoms are anxiety and restlessness, violent screaming, yellowish diarrhœa, griping, tearing pain, one cheek red, the other pale; also for colic of pregnancy and of nervous women.

PULSATILLA for colic occurring at night, induced by rich pastry or fat food. The pain is very severe, and attended with eructations and expulsion of large quantities of flatus.

COCCULUS is recommended in the colic of hysteria.

For verminous colic of children, **CINA** is recommended.

In all forms of colic *warm fomentations* are of great benefit; also *vapor baths* and *warm baths*.

Lead colic has, in addition to the ordinary symptoms, an intense grinding or twisting sensation around the navel, and a retraction of the abdominal walls. The presence of lead in the system is generally indicated by a blue line around the edges of the gums. Painters are the most subject to it, but it may attack any one who absorbs lead into the system, either through drinking water conveyed through lead pipes, sleeping in freshly painted rooms, or using substances adulterated with the salts of lead. The remedies for lead colic are **OPIUM** and **ALUMINA**. Drinking largely of *milk* is said to be prophylactic.

INTESTINAL WORMS.

There are several varieties of these parasites found in the intestinal canal, but the physician is seldom called upon to deal with more than three kinds. These are *lumbricoides*, *ascaris vermicularis* or pin-worm, and the *tænia* or tape-worm.

Lumbricoides.

The first variety is a long, round worm, somewhat resembling the common earth worm, but longer, varying in length from six to twelve inches. Its habitat is in the small intestines, and it is found in varying numbers from two or three to thirty or forty, and, in rare instances, as many as two or three hundred have been expelled. Sometimes they are migratory. They have been found in the stomach, Eustachian tube, frontal sinus, larynx, hepatic ducts, gall bladder. They are sometimes vomited up. Cases have been known of their finding their way out through the nostrils. In one case of perforation through the intestine into the bladder the first knowledge of the fact was obtained by the egress of a lumbricoid from the penis. The case was that of a child seven years old. They are most common in childhood, but no age is free from them except infancy and old age.

Symptoms.—The symptoms generally supposed to indicate the presence of these parasites are fever, with circumscribed redness of the cheeks, colic pains, foul breath, swelling of the abdomen, itching of the nose, unusual paleness of the lips, starting and jerking in sleep, and also grinding of the teeth. It is very doubtful if these symptoms can be regarded as diagnostic, for the worms are often discharged without these symptoms being present. The only sure diagnostic test is the discharge of the parasite. It will not do for you to declare their absence, for you may be put to shame by their inopportune appearance in the stools.

Cause.—It is probable that the ova find their way into the stomach and intestines through the water used as drink, and find there favorable conditions for their development. An abundance of mucus is supposed to be one of these favorable conditions.

Treatment.—The remedies are *Santonine* and *Cina*.

CINA has itching of the nose, fever, pale lips, redness of cheeks, gagging cough, grinding of the teeth in sleep, twisting pain in navel, distended abdomen. When a child has these symptoms you will relieve it by giving *Cina*, whether they are indicative of the presence of *lumbricoides* or not.

SANTONINE acts as a poison to the worms. I do not know that it has any homeopathic relation to the affection or not. I am inclined to doubt whether any drug will tend to develop them. The remedies correspond to the objective and subjective symptoms induced by their presence in the intestines.

Ascaris.

The ascaris or pin-worm inhabits the large intestine, principally the rectum.

Their presence excite pain, straining, and itching or pruritus. This last may be due to other causes, but its presence in children especially should lead us to suspect the presence of pin-worms. The itching is extremely annoying, and the efforts to relieve the irritation leads, in young girls, to the habit of masturbation, for they sometimes migrate into the vagina.

Diagnosis.—The diagnosis is generally made without difficulty, for inspection reveals their presence in the stools or at the anus.

The same remedies as for lumbricoides may be given, and, in addition, *enemas of water, salt and water, sweet oil or lime-water* may be used. The last are destructive. Perseverance in the use of the enemas should be enjoined until all the symptoms disappear.

Tænia, or Tape-worm.

The origin of this formidable parasite has been traced through the researches of Kuchenmeister and Von Seibold from cystic entozoa, known as cysticerci. A cysticercus is an undeveloped tape-worm. These entozoa are found in the solid parts of different animals. These taken into the stomach of other animals in food, and finding favorable conditions for development, become a tænia, one variety of cysticercus developing into one kind of tænia, and another into another kind. It seems to be a fact that nearly every animal has these cystic entozoa hid away in its muscles, liver, brain, etc., and the mouse, rat, rabbit or squirrel, eaten by any other animal, leave these entozoa in the alimentary canal to be developed into parasites. But there is still another curious development. The ova of these worms becomes the cysticercus in one animal and the tape-worm in the third. That is, the ova from the mouse, taken into the body of the rat, becomes a cysticercus, and the cysticercus of the rat, eaten by the cat, becomes a tænia.

The shape of the *tænia*, or tape-worm, is flat, ribbon-like, with numerous segments. It is broadest in the middle. The neck is a thread-like continuation. The head is small, triangular in shape, and is provided with suckers and hook-like projections by which it is attached to the mucous membrane. Each segment is an independent organism, is provided with male and female generative organs, is, when thrown off, full of ova, which taken into the stomach of some animal develop into cysticerci. The two principal kinds found in the human family are the *tænia solium* and the *tænia lata*. The joints or segments of the *tænia* are constantly being thrown off, and as constantly reproduced. Each segment is full of ova, the number in one being, according to Bennew, as high as 12,000,000. Fancy each of these developing into a tape-worm. It seems strange that nature should make such ample provision for the propagation of such a nuisance, but it is common.

The *tænia solium* is the kind most frequently met. In spite of their amazing fecundity they are not often met with in practice. If we were a nation of raw meat eaters, like the Abyssinians, we should have many more cases of it. It is asserted as a fact that those given to eating uncooked meat are more affected with tape-worm. The eating of meat raw or imperfectly cooked is said to be the cause of these worms.

The tape-worm lives in the small intestine. When it is very long it extends into the large intestine.

***Symptoms.**—We are not certain of the presence of tape-worms from any well-defined symptoms. About the same class of symptoms as are considered indicative of the presence of *lumbricoides*, are also considered symptomatic of these. Canine hunger with emaciation, pruritus, itching of the nose, colicky pains, ringing in the ears, vertigo, headache, and increased flow of saliva, are among the symptoms supposed to be induced by their presence.

Diagnosis.—The only reliable diagnostic sign is their presence in the evacuations. They may exist some time without their presence being discovered, but sooner or later portions of them will appear in the stools.

Treatment.—The remedies are those which poison them. They are: *Felix mass* or *Male fern*, *Oil of Turpentine*, *Pomegranate*, *Kousso*, *Kamela*, and *Pumpkin-seed oil*.

The usual way is to put the patient on a low diet for a few days, and when the stomach and small intestines are empty give the selected remedy, to be followed after a few hours by

a brisk cathartic to expel the corpse. Unless the head is discovered in the dejections we are not certain of having destroyed it, and must try again.

The dose of FERN is a dram of the oil in capsules, or in mucilage with milk.

TURPENTINE in half ounce doses every half hour until two ounces are taken, in emulsion with some aromatic substance.

Of Koussou, half ounce of the powdered flowers is given at a dose.

Two and one-half ounces of bark of POMEGRANATE root boiled in a pint of water until reduced one-half, and the whole taken in the course of three hours.

KAMELA is a new remedy, which is said to be particularly effective. The mode of administering is as follows:

Dissolve two drams of the powder in four ounces of gum arabic emulsion; half to be taken at night, the other half in the morning. If not effectual, add from a half to one and a half drams of oil *Male fern*, and repeat. Low diet the day before taking the medicine.

PUMPKIN-SEEDS are prepared by pounding two ounces of seed with a pint of water, and straining. This constitutes one dose, which may be repeated daily until the worm comes away, or for several days.

The only preventive measures are to avoid raw and imperfectly cooked meat, and to use pure water.

* *Trichinæ.*

A new disease has lately been described which has been discovered to have been caused by the presence in the muscles of an immense number of parasites called trichinæ, and the disease has been called trichinosis or trichiniasis. The symptoms are: debility, fever, sleeplessness, abdominal pains, diarrhœa, in the first stage, then severe pain in the muscles like rheumatism. In some cases there is cough and expectoration of orange-colored mucus. Aphonia is sometimes caused by the presence of the trichinæ in the muscles of the larynx. Toward the close of the disease the symptoms resemble those of typhoid fever. When death occurs it is with symptoms of profound exhaustion.

The cause of the disease is the taking into the stomach, flesh which contains the parasite inclosed in a cyst. This cyst is dissolved in the gastric juice of the stomach, and the animal, free from its envelop, immediately begins to grow and multiply. The female, in a week or ten days, gives birth

to 100 or more, and the young swarms penetrate the mucous membrane, and rapidly find a lodgment in all the muscles of the body.

I do not know of a remedy for the disease. The way to prevent it is to abstain from pork unless thoroughly cooked. Some writers claim that *Carbolic acid* will destroy the parasite, but this can only be before the animal leaves the stomach. For after they are lodged in the muscles it is doubtful if there is any remedy.

CHAPTER VIII.

DYSPEPSIA AND GASTRALGIA.

DYSPEPSIA—SYMPTOMS—CAUSATION—PROGNOSIS—TREATMENT. GASTRALGIA—SYMPTOMS—CAUSATION—TREATMENT.

DYSPEPSIA.

It is difficult to define this term so as to include all the multifarious derangements of health which owe their origin to disturbance of the function of digestion.

The disease varies in duration from a few days to a lifetime, and in intensity from a simple sense of discomfort after eating or before a meal, to sufferings which make existence wretched and a burden. The most simple, and at the same time the most common, is what may be called acute indigestion, or what is often designated a bilious attack. It occurs at all times, but is much more common in the spring. It is also called gastric fever. It is occasioned by overfeeding, use of indigestible food, strong emotions, fatigue, exposure to cold, etc.

I think one reason why it occurs so often in the spring is that people then are more apt to overeat, the body, with the return of hot weather, not requiring so much nor so stimulating food as during the winter.

Symptoms.—The symptoms are a sense of weight, fullness and pain in the stomach, nausea or vomiting, or looseness of the bowels, some fever and headache, tongue furred and white, general feeling of discomfort and lassitude. There is also loss of appetite, and unpleasant taste in the mouth. In many cases the nausea and headache occur together, and we have the disorder called sick headache.

Treatment.—The almost universal remedy is a general cleaning out, that is, if the desire of the patient is followed. He will say that his stomach is foul, that his blood is too

thick and needs thinning, and he wants some medicine that will clean him out.

The remedies best adapted to this condition are *Nux*, *Pulsatilla*, *Iris* and *Mercurius sol*.

Nux is indicated for the following train of symptoms: occipital headache, confused feeling in the head, sense of fullness and pressure in the stomach, pain in the stomach, worse in the morning, water-brash, regurgitation of food, alternate constipation and diarrhoea, bitter taste in the mouth, tongue coated white or yellow.

PULSATILLA is indicated if the attack has been brought on by eating rich, indigestible or fat food, and occurring in individuals of lymphatic temperament. Headache is generally on the left side.

BRYONIA is frequently useful where all the symptoms are aggravated by movement, and when there is a sensation of a hard lump in the stomach.

Iris is more particularly indicated when the complaint assumes the form of sick headache, with pain in the stomach.

MERCURIUS SOL. when the acute attack is accompanied by bilious diarrhoea. The irritation of the stomach extends to the liver and the intestines.

. But the term dyspepsia is generally confined to the more chronic derangements of the stomach. These present a wide range of symptoms, a part of them referable to the stomach, and others manifested elsewhere; these last are sympathetic disturbances.

First, as to the symptoms connected directly with the stomach and the processes of digestion. These are two-fold; difficult and painful digestion, and imperfect or deranged digestion. In the latter case the process of digestion goes on until it is accomplished, but it is accompanied by uncomfortable feelings. The patient complains of feeling miserable from the time the food is taken into the stomach until it passes into the duodenum. There is uneasiness, a sense of fullness, and a general feeling of discomfort. Perfect digestion is a source of pleasure. It is often stated that the best time to solicit a favor is after a good dinner, while the individual is under the soothing influence of a good digestion. It certainly would not do to apply to a dyspeptic after his dinner, no matter how good it might have been, or however reasonable the request.

Symptoms.—The symptoms chiefly referable to the stomach are pain, flatulence, eructations, regurgitations of food,

vomiting, constipation, alternating with diarrhœa, acidity of the stomach, causing heartburn, gastrodynia or cramps in the stomach, and pyrosis or water-brash. The distension of the stomach from gas is sometimes excessive. It arises from a fermentation of the food taken into the stomach. I treated a patient who, a short time after taking food, would have the stomach enormously distended with gas. The contents would soon be ejected by vomiting, when a second meal would frequently be taken with intense relish, followed by a like result. This dilatation of the stomach with gas causes oppression of the breathing from the pressure upon the diaphragm. In some cases of dyspepsia the appetite is impaired, in others it is morbidly increased. In the case of the patient I mentioned she always ate heartily, and would, if allowed, make a dozen hearty meals in a day. In many cases the patients suffer from constant hunger, and become faint and low spirited, with a painful sense of sinking at the pit of the stomach if the desire for food is not gratified. Others do not eat oftener than usual, but become nervous and excited just before a meal. The acidity of the stomach is due to the excessive quantity of *Lactic* or *Chloro-hydric acid* secreted by the stomach. Its acrid nature causes the painful sensation called heartburn, and the acid eructations scald the fauces and mouth. Regurgitation of food is a common symptom; small quantities of food return to the mouth generally soon after eating. The food is frequently not at all changed in character from what it was when swallowed.

The sympathetic symptoms in dyspepsia are numerous, and frequently the cause of more suffering than any originating in the stomach. These are palpitation of the heart, oppression in the chest, pain around the loins, aching of the limbs, headache, vertigo, neuralgia, incapacity for physical and mental exertion, mental depression, irregularity of the pulse, irritability, dejection of spirits, confusion of ideas, melancholy, and all the manifold forms of hypochondria. Bad as are the derangements of the physical system, they are not so distressing as the mental. Confusion of ideas is apt to occur, especially after a hearty meal; the patient is unable to concentrate his mental faculties on anything, is unable to pursue a train of thought, to finish a calculation, is wavering, uncertain, distrustful of himself and others. Sometimes it seems as if a mist were before his mind through which he could not penetrate. After the passage of food from the stomach this mist seems to lift from his brain, and his mind resumes

its accustomed vigor. Another mental condition is an undue anxiety about one's health. The patient's mind is concentrated upon his bodily ailments, whether real or fancied; he is looking at his tongue, feeling of his pulse, afraid of coming sickness, exaggerating every sensation, until the disorder culminates in hypochondriasis.

I knew a medical student afflicted with dyspepsia who fancied he had every ailment which the professors described. One day it was heart disease; the next, tuberculosis; the next, he was furtively examining his sputa to see if he did not have hemorrhage from the lungs. This mental condition serves to keep up and perpetuate the physical ailment; the mind and the body act and re-act, each tending to make the other worse. We can readily understand why suicides should be frequent among dyspeptics. Physical and mental pain, despair of recovery, anxiety concerning the present and the future, a mind clouded with settled despondency and gloom, constitute such a depressing condition that it is no wonder they come to the conclusion that it is not "better to bear the ills they have," but to end them by the bullet or the rope.

Causation.—Persistent errors in diet, excessive use of alcoholic stimulants, the pernicious habit of hastily bolting food, and excessive smoking, are direct causes. Masturbation, practiced in youth, is also a fruitful cause of dyspepsia. It may follow attacks of acute or subacute gastritis when imperfect recovery takes place. Among the indirect causes are anæmia, sedentary habits following a life of active exertion, overwork conjoined with mental worry and anxiety—such as we see too, frequently among business men. The disease is most common in middle life.

Treatment.—The treatment first relates to diet, exercise, clothing, bathing, etc.

There is a popular error that dyspeptics should systematically starve themselves, or, in other words, confine themselves to articles of food which are not very palatable, and which are coarse in fibre and quality. A diet of bran bread, coarse graham mush, with little else, is rather a popular diet, except to the victim of it. I had a dyspeptic patient last summer whose food was chiefly bran bread, and she wondered that she was losing flesh and not improving in health. The result was an attack of gastritis which nearly finished her eating forever. There are two objections to this meagre diet: *First*, it concentrates the patient's mind on the disease; and, *Second*, it excites a repugnance to food, and prevents proper nutrition.

There is such a very wide range of choice of palatable food which is easily digested and assimilated as to make such coarse foods unnecessary.

The diet of the dyspeptic should be varied, nutritious, and easily digested. Meat stewed or boiled, bread neither too new nor old, rice, corn mush, oat-meal, eggs, fruit in moderate quantities, and milk, are all of this class. The use of what is really easily digested should be persevered in, unless the symptoms of disagreement are well marked and persistent. It is impossible to absolutely regulate the diet for any one case; the physician who attempts it will fail. The experience of the patient is of value. The experience of Jackey Spratt and his wife, so aptly put by Mother Goose, is often illustrated in this disease.

My creed is this: First a varied diet of wholesome nutritious food; avoidance of all rich, heavy food, as pies, pastry, rich preserves, fried meats, etc. To eat slowly, and in company; if possible, rest after eating; to eat as often as three times daily, and in many cases oftener; to avoid food which repeated experience shows to be hurtful; regularity in the time of eating.

As regards clothing, there should be the same exercise of judgment as in eating. The clothing should be warm and comfortable, and, above all, should be adapted to the temperature.

Exercise should be taken in moderation, and of a kind as not to be a task. Walking just for the sake of the exercise is not likely to be beneficial; but walking for the purpose of viewing agreeable scenery, or with a pleasant visit in prospective, is very good. Rowing, horseback riding, travelling (especially among mountain scenery), are all judicious modes of exercise. In short, the exercise must be in some measure a diversion to be beneficial.

The physician cannot be too careful to avoid making light of his patient's anxieties and mental moods, or of making them a subject of ridicule. He should listen patiently, and gaining his patient's confidence, show him that they are functional disorders and dependent upon the derangement of the digestive organs, and that relief from them will follow an improvement in his digestion. If he can be made to take this view it will greatly tend to encourage him. A relief from his mental disquietude will go far toward promoting his recovery.

The medicines recommended for the various phases of dyspepsia are numerous, but when we reflect that all the ills of the disease spring from one source; namely, a morbid condition of the stomach, we may conceive that but few medicines are actually needed for the treatment of the disease. I shall first mention those of most importance. They are *Nux vomica*, *Carbo veg.*, *Lycopodium*, *Sulphur*.

NUX VOMICA is specially adapted to persons of sanguine temperament when the disease has been induced by over-eating or drinking, constipation, alternating with diarrhœa, canine hunger, frequent headaches, dizziness or vertigo, confusion of ideas, hypochondriacal fancies, water-brash. *Nux* is also particularly adapted to dyspepsia brought on by excessive use of tobacco. I do not give the local symptoms, as these are common to nearly every variety of the disease. *Nux* acts better in dyspepsia in the high than in the low potencies. I seldom prescribe under the 200 potency.

CARBO VEG. is only second in importance to *Nux*, and I use it in the same potency. The mental derangements are not so prominent a feature as in *Nux vomica*. The symptoms are loss of appetite, longing for acids, aversion to fat meat and milk, acid eructations and vomiting, vomiting of intensely sour ingesta, flatulence distending the stomach after eating, burning pain in the stomach, heartburn.

LYCOPODIUM is indicated for uneasiness in stomach, as if something were twisting and crawling there, sensation as though water was dropping in the stomach, flatulence, with rumbling, drowsiness after eating, regurgitation of food, constipation, feces consisting of hard lumps.

SULPHUR is better adapted to persons of scrofulous temperament. The presence of hemorrhoids is an additional indication for its use.

Many other remedies are mentioned by writers on dyspepsia, as *Lachesis*, *Bryonia*, *Pulsatilla*, *Sepia*, but as they are called for chiefly by individual idiosyncrasies I do not give the conditions to which they are adapted. I know of no disease in which routine practice is more common, nor one in which it is so much to be deprecated. I advise a careful study of each case, and, above all, record carefully symptoms and treatment for future reference.

GASTRALGIA.

(*Synonyms*, NEURALGIA OF THE STOMACH, CARDIALGIA, GASTRODYNIA.)

Gastralgia is an affection of the nerves of the stomach. It may or may not be associated with dyspepsia. It is characterized by the occurrence of paroxysms of pain, which continue from several hours to two or three days. The pain is frequently very acute, and occurs in paroxysms of an hour's duration, more or less, followed by intervals of relief. The pain is boring, twisting, cramping. The stomach is seldom sensitive to pressure; indeed, relief seems to be obtained from hard pressure, the patient pressing his stomach upon a chair back or the bedstead. Not much, if any, fever attends the paroxysm. The attacks are sometimes induced by certain articles of food. Cheese, lobsters, honey, will induce an attack in certain individuals. In others we cannot trace the disease to any cause.

This affection needs to be discriminated from gastritis and the passage of biliary calculi. The want of fever, persistent vomiting and tenderness on pressure serve to exclude gastritis. It is more difficult to distinguish it from the passage of gall stones. The jaundiced hue of the skin, the slowness of the pulse and the dark brown color of the urine, in the latter disease, generally enable us to discriminate.

Treatment.—Topical applications of hot water are beneficial. The remedies are *Nux* and *Arsenicum*. *Nux* is said to be better for males, and *Arsenicum* for females.

I am inclined to think that spasm of the stomach from irritation of its nerves is better controlled by *Nux*, and sympathetic irritation of the stomach from affections of the coeliac axis yields more readily to *ARSENICUM*. In the last the pain is of a more acute burning character, and radiates from the stomach, extending at times upward into the chest..

CHAMOMILLA is indicated in persons of irritable nerves, easily excited to anger, pain attended by shortness of breath, worse at night, relieved by bending double.

Hempel says when the disease is caused by venous congestion *ACONITE* will promptly cure it.

BELLADONNA in gastralgia of females with irritable nerves.

I am inclined to think that *PHOSPHORUS* will prove to be a valuable remedy in gastralgia. If you will examine Herring you will find a very accurate description of gastralgia in the pathogenesis of *Phosphorus*.

CHAPTER IX.

PERITONEAL DROPSY, OR HYDROPERITONEUM
AND PERITONITIS.

PERITONEAL DROPSY—SYMPTOMS—CAUSATION—DIAGNOSIS—TREATMENT.
PERITONITIS—ACUTE AND CHRONIC—ANATOMICAL CHARACTERS—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

PERITONEAL DROPSY, OR HYDROPERITONEUM.

As I have said before, dropsy is not an indication of disease where the accumulation of fluid is found. Therefore peritoneal dropsy, or ascites, as it is more commonly called, does not include the effusion of liquid which is the result of peritoneal inflammation, but a transudation of serum, in consequence of obstruction in the current of the blood at some other point. Although not a disease in itself, but a manifestation of a morbid condition elsewhere, yet as we cannot always trace it to its source, or, having traced it, find the causative disease incurable, we shall find it necessary to treat the effusion as a disease.

Generally, ascites proceeds from some disease of the liver. Cirrhosis, atrophy, obstruction to the portal circulation, and enlargement of the liver, are generally toward the last accompanied by peritoneal dropsy. The effusion takes place without pain, tenderness, fever, or, at first, *any* subjective symptoms. As, however, the abdomen becomes distended, the weight and pressure of the liquids produce a sense of discomfort. The functions of the liver, kidneys and stomach, suffer from the compression. With much distension there is difficulty of breathing from the pressure upon the diaphragm, and in severe cases life may be destroyed in consequence of the excessive pressure. The appetite is impaired, and emaciation follows in consequence.

Edema of the lower limbs generally accompanies the disease.

This is owing to the pressure upon the abdominal veins, preventing the free return of the blood from the lower extremities. The upper extremities and the face are not affected. Toward the close there may be coma and convulsions from toxæmia. But generally the intellect remains clear to the last.

Diagnosis.—The diagnosis is usually made without difficulty. It may, and has been confounded with obesity, pregnancy, distended bladder, ovarian cysts, tympanites, and abdominal tumors. A careful examination will generally result in a correct diagnosis.

If there is any doubt about the diagnosis the patient should be examined by percussion in different positions. In the sitting or standing position percussion will elicit resonance over the upper part of the abdomen and flatness below, for the reason that the fluid seeks the most dependent situation, and the intestines float upon the fluid. Placing the patient on the back resonance will be heard nearer the pubes. Similar results will follow turning from side to side, resonance being heard at the uppermost part of the abdomen.

Large ovarian cysts are most frequently mistaken for dropsy. They can usually be detected by appreciation of the outlines of the cyst through the abdominal walls, and by the enlargement first being noticed on one side.

I detected pregnancy in one patient who had been treated for ascites for two months, an inexcusable failure to make a careful physical examination being undoubtedly the cause of the error. The pulsation of the foetal heart was clearly heard with the stethoscope.

Prognosis.—The prognosis is unfavorable. The conditions upon which ascites depend are so often unfavorable and incurable that we can seldom promise more than temporary relief.

Treatment.—The treatment, of course, is first directed to the disease of which ascites is a symptom. If this is curable, the absorption of the dropsical accumulation will follow. Failing in this we use means to remove water from the blood, and thus promote re-absorption of the fluid in the abdomen. A new remedy for this purpose has been lately made known which promises favorable results.

This is *JABORANDI*, which, given in five or ten grain doses of the powdered leaves, produces copious perspiration and rapidly withdraws the water from the blood, causing active re-absorption of dropsical effusions.

I have had no opportunity to try this remedy, but think it will be likely to supplant all others for this purpose.

Apocynum cannabinum, as a diuretic, has been largely used; also the *hydragogue cathartics* as *Elaterium*. The success from these last has not been very promising.

Tapping is the last resort. Since the introduction of the aspirator the operation has been attended with less danger than when the trocar and canula were used. The operation, as now conducted, is comparatively free from danger and pain, and adds vastly to the patient's comfort, besides undoubtedly prolonging life indefinitely. Besides, the time gained may be of special value by enabling us to employ curative agencies for the primary disease. It is more than probable that patients are permanently cured who otherwise would have been sacrificed. Sometimes, when the water has been removed by tapping, the effusion does not return for a long time, especially if compression of the abdomen is carefully maintained. Tapping with the needle produces hardly any shock to the system, and may be repeated as often as conduces to the patient's welfare. As ascites, in a majority of cases, occurs in patients given to drinking, and is the result of disease produced by this habit, it is important, as an adjunct measure, that the habit cease. Impending death is a powerful argument to induce a drunkard to abandon his cups, and may be effectual. Nutritious, invigorating diet is another means to strengthen the system. If these means do nothing more they prolong life and make it much more endurable.

A great number of remedies have been recommended by writers of our school. I mention some of them: *Arsenicum*, *Helleborus*, *China*, *Digitalis*, *Apis*, *Fluoric acid*, *Prunus spinosa*, *Aurum muriaticum*, *Apocynum cannabinum*, *Ferrum*, *Kali carb.*, *Phosphorus*, *Iodium*, *Chelidonium*, *Acidum nitricum*, *Aconite*, *Acetic acid*, *Belladonna*, *Bryonia*, *Cal. carb.*, *Squills*. Hale gives *Aletris*, *Ampelopsis*, *Apocynum*, *Chimaphila*, *Erigeron*, *Eupatorium*, *Helonin*, *Iris*, *Senecio*.

Dr. Freleigh asserts that he has cured several cases of ascites, and also the primary disease, with *Apocynum*.

Dr. Peters reports a case cured with tea-spoonful doses, patient aged seventy years. Another case treated at first by high dilutionists, then by two distinguished allopathic physicians, then again with high dilutions, then by himself, was cured with a pint bottle of *Hunt's Apocynum*, $\frac{1}{2}$ mother tincture.

I tried it in two cases, one of which was an enormous beer

drinker, and very corpulent. I failed in both to derive any benefit from its use. I give the names of the remedies. I do not recommend any of them as likely to promote absorption in ascites.

ACUTE PERITONITIS.

The peritoneum is a serous membrane lining the abdominal walls, and reflected over the abdominal viscera. Like other serous membranes it is the seat of inflammation, which may be acute, subacute or chronic. A variety of peritoneal inflammation, called puerperal peritonitis or puerperal or child-bed fever, is peculiar to women after childbirth, and is specially treated of as a department of obstetrics. The symptoms, however, do not differ materially from those of general acute peritonitis.

In death from acute peritonitis the appearances are much the same as in affections of other serous membranes. There is redness, swelling and softening. More or less lymph is always present. It is more abundant where the viscera touch, often agglutinating them together and to the abdominal walls. It is soft when recently poured out, but becomes denser and tougher with age. The cavity of the abdomen contains more or less turbid serum, with sometimes an admixture of blood. Nearly always there are other morbid conditions, as perforations of the intestines or stomach, invagination, constriction or occlusion of the intestines, rupture of the bladder or gall-sac, abscess of the liver, etc. In process of time adhesions of the viscera to each other and to the abdominal walls take place by bands of organized tissue, which grow firmer and stronger with time.

Causation.—Exclusive of its occurrence after confinement it rarely occurs as an idiopathic affection. It is claimed that the peritoneum is, of all serous membranes, the least liable to inflammation. Why it is so we do not know. In the great majority of cases peritonitis occurs in the course of some other disease of the abdominal viscera. Perforation of the stomach, intestines and the vermiform process are the most frequent exciting causes. Strangulation and invagination of the intestines also give rise to the disease. I knew of one case of death to result from injections of water into the uterus, the object being to produce abortion. The liquid reached the abdomen through the Fallopian tubes, producing peritonitis, ending fatally. Other causes are from wounds and injuries, from operations for the removal of tumors and idiopathic

peritonitis, from standing in cold water too long, or from long continued exposure to cold.

Symptoms.—Chill followed by fever, pain at first in spots but soon extending over the whole abdomen; the pains are frequently like those of colic, but soon become continuous. The pain is generally very severe, and is aggravated by coughing, vomiting, or evacuations from the bowels. The abdomen is exceedingly sensitive to pressure, even the weight of the bed-clothes being unbearable, and the patient lies flat on the back, with the limbs drawn up to relax the abdominal muscles; these are usually rigid and tense—this condition being a diagnostic symptom. The abdomen is hot, and frequently tympanitic, to such an extent at times as to greatly increase the distress of the patient and seriously to impede respiration. There are generally nausea and vomiting, the skin is dry and burning, the pulse quick and weak, the tongue dry and red at the edges, and the countenance exhibits great anxiety and distress.

If the disease assumes a favorable change these symptoms are mitigated. The pain and tenderness abate, the vomiting ceases, the temperature decreases, the pulse is reduced to a more normal rate. But if, on the contrary, a fatal termination is imminent, the symptoms become worse. The abdomen becomes more distended, the pulse more feeble and intermittent, retching and hiccough become frequent, a cold clammy sweat bathes the skin, and death follows.

Prognosis.—The prognosis is in general unfavorable, especially if the disease is caused by the discharge of an abscess, rupture of the gall-bladder, or perforation of the intestines or stomach, allowing their contents to escape into the peritoneal cavity. It is more favorable in idiopathic peritonitis, or if caused by rupture of a hydatid cyst. The quantity of foreign material poured out determines, in a great measure, the amount of danger. The less the quantity the more likelihood of recovery. The puerperal form of peritonitis resembles very much the form I have described. In bad cases pyæmia is likely to be superadded.

Diagnosis.—This in well defined cases is generally easy. It needs to be discriminated from gastritis, enteritis, invagination and neuralgia.

The suddenness of attack, circumscribed location of the pain, intense thirst and vomiting of everything taken into the stomach, characteristic of gastritis, are sufficient to differentiate it from peritonitis.

It is frequently very difficult to diagnose peritonitis from enteritis. It can be generally distinguished from the latter by a greater degree of pain, greater frequency of the pulse, more tenderness on pressure, more tympanites, rigidity of the abdominal muscles, and by absence of diarrhœa. The pain of invagination is confined to a limited space, while that of peritonitis is general. In neuralgia there is absence of tympanites, pain on pressure, quick pulse and haggard, distressed countenance.

Treatment.—Local applications of flannels wrung out of hot water are the only ones likely to prove beneficial. The allopathic treatment is by *Opium* alone, full doses being given as often as necessary to allay pain and keep the patient quiet. The remedies we find the most beneficial are *Aconite*, *Belladonna*, *Bryonia*, and *Veratrum*.

ACONITE in the first stage, to be quickly followed by *Belladonna* or *Bryonia*, unless relief soon follows its administration.

I do not think BRYONIA proves as efficient in this inflammation as in pleuritis and pericarditis, but still, given after effusion has taken place, it is the best medicine to promote absorption.

But in the first stages of the disease, or at least after *Aconite* has done all we can expect from it, BELLADONNA is best adapted to the disease. It is indicated by the intense pain, restlessness, hot and dry skin, headache, pulse quick and wiry, and tympanites.

VERATRUM, if there is diarrhœa, frequent vomiting, face pale and sunken, cold sweat, pulse small and frequent, great anguish and distress.

In the cases I have treated of this disease I have only used *Aconite*, *Belladonna* and *Veratrum*. I lost one case, but I think I did not appreciate its gravity, as the worst symptoms were masked, and I was led to believe that my patient was not in as much danger as she really was. There was great distension of the abdomen, but the pain and tenderness were not excessive. Such cases occasionally occur, and authors speak of them as being as dangerous as where the symptoms are more pronounced.

CIRCUMSCRIBED PERITONITIS.

There is a variety of the disease called circumscribed peritonitis from its being limited to a small portion of the membrane. This occurs from adhesive inflammation being set up

when there is danger of perforation from ulcers or from an abscess pointing in the abdominal cavity or into the intestines. The symptoms are similar but less intense. The treatment is the same.

CHRONIC PERITONITIS.

Chronic peritonitis may be the sequel of the acute, or, more frequently, an independent affection. The inflammation may be partial or general. Louis gives his opinion that when not a sequel of acute, that chronic peritonitis is always complicated with tubercles. Other writers assert the frequency of the complication, but that it is by no means universal. Tubercular peritonitis is common among children who have a strumous diathesis, but it also affects adults who inherit a predisposition to tubercular disease. The pathological anatomy shows the peritoneum studded with miliary tubercles, or there may be a more abundant tubercular deposit which, mingled with lymph, agglutinates the coils of intestines. Sometimes the softening of the tubercles causes ulceration and perforation of the coat of the intestine, giving rise to a fecal abscess, the escape of the contents of the bowels being prevented by adhesions surrounding the point of perforation. At other times perforation may occur between two adherent coils of intestines. The mesenteric glands are generally enlarged and indurated and occasionally softened.

Symptoms.—The symptoms are somewhat obscure, the pain and tenderness at first being slight. There are often attacks of colic, some fever, with diarrhoea. As the disease progresses the abdomen becomes tender, obstinate diarrhoea sets in, the appetite becomes impaired and finally fails, the emaciation becomes great, the pulse is quick and weak, and the patient dies of asthenia.

If complicated with pulmonary tuberculosis and enlargement and softening of the mesenteric glands the disease progresses all the more rapidly to a fatal termination.

The remedies for chronic peritonitis are *Calc. carb.*, *Calc. phos.*, *Calc. iod.*, *Carbo veg.*, *Phos.*, *Sulphur*, *Nitric acid* and *Sulphuric acid*.

The compounds of LIME are indicated in patients of scrofulous diathesis, with the following group of symptoms: Distended abdomen, enlargement of mesenteric glands, soreness and tenderness on pressure, emaciation, quick pulse, flabby tongue, stools mixed with undigested food.

PHOSPHORUS is indicated in tubercular peritonitis, with tympanites, painful feeling of weakness in abdomen, emaciation, chronic diarrhœa painless and debilitating.

NITRIC ACID is indicated when the disease is associated with ulceration of the intestines, occurring during and after typhoid fever, with discharges of pus in the stools.

SULPHURIC ACID may be given in obstinate and uncontrollable diarrhœa.

CHAPTER X.

DISEASES OF THE LIVER.

CONGESTION—SYMPTOMS—VARIETIES—TREATMENT. ACUTE HEPATITIS—SYMPTOMS—PROGNOSIS—TREATMENT. ICTERUS, OR JAUNDICE—SYMPTOMS—PROGNOSIS—TREATMENT. HYDATID TUMORS OF THE LIVER. GALL-STONES, OR BILIARY CALCULI—TREATMENT.

THE liver is the largest gland in the human body, and is situated in the right hypochondriac and epigastric regions. Its average weight is about two and one-half pounds. It is traversed by numerous and important blood-vessels, and is the seat of an independent collateral circulation. The venous blood enters it through the portal and emerges by the hepatic vein. The two principal offices are the formation of glycogen and glucose and the elimination of bile from the blood. It is liable to many diseases; as congestion, inflammation, hypertrophy, abscess, fatty degeneration, carcinoma, atrophy, and some others.

CONGESTION.

This is not an infrequent disease of the liver. There is always, during digestion, an accumulation of blood in its capillaries, and violent exercise soon after a full meal often leads to temporary hyperæmia of the organ. Hyperæmia results from any cause which obstructs the circulation of the blood through its vessels, as in valvular affections of the heart, or hindrance to the free circulation of the blood through the lungs.

Symptoms.—The symptoms of congestion of the liver are headache, pain in the loins and limbs, sense of constriction and fullness in the right hypochondrium, slight jaundice, nausea and vertigo. The urine is scanty, high colored, the bowels constipated. The area of dullness, under percussion, is extended.

Varieties.—There are two varieties of congestion of the liver; the first passive where the condition depends upon obstruction to the circulation of the blood elsewhere, and active congestion, which arises from causes which increase the functional activity of the gland. Among these are the suppression of habitual discharges; as of the menses at the critical age, of hemorrhoidal bleedings, long residence in hot countries, with excesses in eating and drinking, etc.

Treatment.—Passive congestion, being due to disease elsewhere, requires no specific treatment. It must be considered in connection with the affection of the organ which is the cause of it.

Active congestion requires *Nux* and *China*.

The symptoms of *Nux* are: liver swollen, indurated and sensitive, with pressure, slight jaundice, nausea, constipation, fullness in the head; complaint induced by high living.

CHINA is especially valuable when the congestion occurs during or after an attack of intermittent fever; pain and swelling in the region of the liver, sensitiveness to touch, yellowness of the skin, nausea, and loss of appetite.

ACUTE HEPATITIS.

There are two varieties of this. Acute diffuse hepatitis, affecting the whole parenchyma of the liver, and circumscribed hepatitis, or what may be better styled hepatic abscess. The former is almost entirely confined to hot climates, and is very rarely seen in more temperate latitudes. It is the latter which we meet with in practice, and of which I shall speak.

Hepatic abscess may be single or double, more commonly single. It is generally of considerable size. In the three cases which I have seen the quantity of pus discharged varied from one and one-half pints to a quart. One case on record contained eighteen pints. The pus is generally of the ordinary kind, being mixed more or less with broken down tissue of the liver. At first it is bounded by the substance of the liver, but after a time a cyst is formed, which becomes firmer with age. Sooner or later the pus makes its way to the surface of the liver and is discharged. It may remain an indefinite period of time, but if it does not destroy life it eventually comes to the surface. Generally the matter makes its way to the surface through the abdominal or thoracic walls. A soft fluctuating tumor makes its appearance, and if not opened the skin reddens, the tumor becomes pointed, and finally the pus ulcerates its way through and is discharged. The most

frequent place of opening is just below the ensiform cartilage, but it may open on the side or over any part of the liver. Circumscribed peritonitis and adhesion generally take place, otherwise the abscess would discharge its contents into the cavity of the abdomen. This result sometimes follows. In one case of my own, adhesion of the liver to the diaphragm, and the diaphragm to the pleural covering of the right lung took place, and the abscess discharged through the diaphragm, pleura and pulmonary tissue into a bronchial tube. It may also be discharged into the pleural cavity, stomach, colon or duodenum. In very rare instances it has been discharged into the pericardium, the pelvis of the right kidney, the hepatic vein, the vena cava, the gall bladder and biliary ducts.

Symptoms.—The symptoms of the disease are often obscure. There is generally fever, but not always, pain and tenderness in the region of the liver and right shoulder, impaired appetite and disturbed digestion. Chills are present during suppuration. After the discharge of the pus the symptoms are those which accompany profuse discharge of pus in other diseases; namely, debility, emaciation, hectic, etc.

This disease is comparatively rare in our climate, being much more common in tropical countries. The cause is unknown, therefore it may be said to occur spontaneously.

Diagnosis.—The diagnosis can be seldom positively made in the earlier stages of the disease. When a fluctuating tumor forms over the liver we may infer hepatic abscess, but it may be a subcutaneous abscess, hydatid tumor, cancer of the liver or a distended gall bladder. Abscess is recognized by the hardness, redness, tenderness and pain before the formation of pus; cancer can be distinguished by the constitutional symptoms and the nodulated feel of the tumor; a distended gall bladder may be recognized by its situation, its shape and its movability. Another point of diagnosis is that in hepatic abscess there is usually enlargement of the liver.

If the abscess discharges through the lung the absence of any previous affection of the lungs points to the source of the discharge. The discharge is also too profuse to come from abscess of the pulmonary tissue. Sometimes the existence of hepatic abscess can only be determined by a post-mortem examination.

Prognosis.—The prognosis is unfavorable. The best chances for recovery are when the abscess discharges through the abdominal walls, the lungs or intestines. Of two hun-

dred and three cases collected, one hundred and sixty-two terminated fatally.

Of my own cases one discharged through the lungs and recovered; two through the abdominal walls, of which one died and one recovered. In seventy-four cases, when the discharge was most favorable, thirty-nine recovered.

Treatment.—We are so frequently at fault in the earlier stages of the disease that we have to be guided almost entirely by the subjective symptoms. The chills accompanying suppuration, in addition to other symptoms, may enable us to make a pretty correct diagnosis before the tumor appears or before pus is discharged through other channels than the abdominal walls. The remedies are *Bryonia*, *Phosphorus*, *Silicia*. I do not give any others for they are of very doubtful efficacy.

BRYONIA will possibly do good in the incipient stage of the disease, before suppuration has commenced. The symptoms preceding suppuration are included in the pathogenesis of *Bryonia*. There is pain and sensitiveness in the right hypochondrium, pain and tension in right shoulder.

Clinical experience has demonstrated the utility of *PHOSPHORUS* after suppuration has been established. I cannot give any provings to show its adaptability.

SILICIA has in its provings, swelling, inflammation and suppuration of glands; abscesses with tardy recovery. This would indicate its use in protracted cases. In the case of the patient who died, life was prolonged eighteen months after the abscess was formed, and she died finally of general anasarca. I did not see her until eight months after the abscess opened.

ICTERUS, OR JAUNDICE.

This is due to obstruction of the biliary duct, preventing the passage of the bile into the duodenum, hence it is re-absorbed and carried into the general circulation, giving that characteristic hue of the skin which distinguishes the disease. It is now established that the origin of the disease is in inflammation and swelling of the lining membrane of the ducts, and accumulation of mucus in them is the cause of the obstruction which results in the ordinary attack of jaundice. The disease may also be an incident of other structural diseases of the liver, and also from occlusion of the common duct from inflammation or the impaction of a gall-stone. In the latter cases the gall bladder is sometimes very much dis-

tended with bile, in one instance reaching the enormous quantity of eight pounds, in another eighteen ounces.

When jaundice is due to structural disease of the liver, as in acute hepatitis, cirrhosis, cancer, etc., or in the course of other diseases, as intermittent or remittent fever, it is to be considered merely as a symptom which will disappear with the disease of which it is a part, or it is incurable if the primary disease is incurable. But when it occurs independently of these affections it is to be considered and treated as a disease, though not strictly one *per se*. It occasionally occurs after violent mental emotion. It is supposed that in this case the absorption into the blood takes place from the intestine, the usual change not occurring in the bile.

Symptoms.—The symptoms of jaundice, independent of the yellow tinge of the skin, and conjunctiva, are ash-colored stools of which the consistency is not much altered; the urine contains the coloring matter of the bile in abundance, and it is also found in the perspiration in quantity sufficient to color the linen; there is intolerable itching of the skin, worse at night; the pulse is much slower than usual, the bile in the blood acting as a sedative upon the circulation; headache, depression of spirits, some nausea, drowsiness and giddiness are also present. It is alleged that in severe cases all objects appear yellow to the patient. The duration of the disease is from a few days to several months.

In severe cases of long continuance the brain may show symptoms of disorder, as stupor, delirium, and the body becomes much emaciated from innutrition, while in other cases there is tendency to hemorrhages.

Prognosis.—The prognosis is generally favorable, except in the case of the old and weak.

Treatment.—The remedies are: *China*, *Nux*, *Phosphorus*, *Phosphoric acid* and *Mercurius sol.*

CHINA is one of the most valuable remedies in this disease. Its symptoms are nausea with canine hunger, aversion to meat, oppression of the stomach, bitter taste, dryness and roughness of the skin, clay-colored feces. It is especially indicated if the disease occurs in the course of or after malarial fevers, or when it follows excessive loss of the fluids of the body.

Nux is more particularly adapted to icterus caused by catarrhal inflammation of the lining membranes of the hepatic ducts. The liver is swollen, and there is some constipation

of the bowels with the characteristic clay-colored stools; dyspeptic symptoms are prominent.

MERCURIUS is more appropriate to jaundice with fever. The stools are more liquid, and of a darker color than is usual in the disease; also more catarrhal inflammation, with loss of appetite, and thickly furred tongue. In jaundice of young children *Mercury* is especially useful.

I have used PHOSPHORUS and PHOSPHORIC ACID with benefit when the evacuations were diarrhœic.

Many other medicines are recommended, but more for the various diseases of which jaundice is but a symptom. I do not think it necessary to go over the list or to detail the various symptomatic indications for their use. The list is too formidable a one. Many cases of jaundice prove intractable because they are connected with incurable diseases.

For some time after the liver regains its normal functional activity the skin retains its yellow tinge on account of the slow reabsorption of the coloring matter. The disease is to be considered at an end when the stools and urine assume their natural appearance.

HYDATID TUMORS OF THE LIVER.

One of these may be met with in practice, and I will say a few words concerning them. Modern research has thrown light on their origin. They consist of a sac lined with a cyst, and contain a limpid, colorless fluid, floating in which are numerous small cysts varying in size. In these are found numerous little granules, which the microscope declares to be living animals, called echinococci. These are a species of minute tape-worm, which infest the bodies of various animals, especially the dog. In Iceland the disease is of very frequent occurrence, the physicians of that country at times having from eighty to one hundred patients affected with it. Its frequency is owing to the great number of dogs, and their having free access to the homes of their masters and to the water used by the family for drinking purposes. The ova of the parasite are, in consequence, swallowed by various members of the family, with the consequent development of these tumors.

The growth of the tumor is slow, and at first occasions little or no inconvenience. As the tumor increases in size it may be easily felt, and there is also enlargement of the liver. It may break and discharge its contents into the abdomen, pleural cavity, pericardium, colon or elsewhere. Suppuration

of the cyst sometimes occurs. Absorption occasionally takes place, and the patient recovers. It is doubtful if medical treatment is of any value. It is supposed that *Iodide of Potassium* has the power of causing absorption.

When the tumor is large, and interferes seriously with the health of the patient, tapping is recommended, or puncturing with the aspirator and drawing off the contained fluid and injecting into the cyst a solution of *Iodine* or of dilute *Alcohol*. If this fails, the next step is to use a trocar and canula, leaving in a drainage tube. The Icelandic physicians report many cases of cures from this method of procedure. Prophylactic treatment is to keep no dogs.

GALL-STONES, OR BILIARY CALCULI.

These concretions are found in the gall bladder and in the branches of the hepatic duct. They are sometimes solitary and sometimes in numbers. When there are many they have several faces owing to pressure and attrition against each other. The solitary ones are round or oval. Those found in the branches of the hepatic duct are rough and dark. The size varies from that of a hemp-seed to a small hen's egg. The solitary concretions attain a much greater size than when numbers are together. They vary in color from a yellowish white to an almost black color. The ingredients are *Cholesteroline*, *Phosphate* and *Carbonate of Lime*, and *Magnesia*. The concretions are laminated or formed of thin plates. The *Cholesteroline* constitutes the greater part of them. When dry they will burn with a clear flame. They are seldom found in childhood or youth, and are more common in females than in males. Excesses in eating and drinking, or irregularity in eating, are supposed to tend to their formation; also that they are more liable to form in persons of a tubercular, gouty or cancerous diathesis than in persons of sound constitution.

The presence of gall-stones in the gall bladder may occasion no inconvenience or they may give rise, especially if the number is considerable, or large in size, to some inflammatory action, with dull pains extending to the shoulders, fever of an intermittent type, indigestion and constipation. If the hepatic duct should be blocked up by one there is pain, vomiting, jaundice and enlargement of the liver.

When a calculus leaves the gall bladder and enters the cystic duct, unless it be a very small one, well marked symptoms ensue. The pain is of a most excruciating character, the re-

gion of the gall bladder and duct are very tender and sensitive to pressure, nausea and vomiting ensue, the bowels are constipated and become tympanitic, sensation of chilliness and the pulse is retarded as in icterus. The larger the stone the more intense the suffering. Sometimes the stone drops back into the bladder, when instant relief follows. If it goes on there is some relief when it reaches the larger common duct, but the pain returns again as it approaches the duodenum. If it passes through into the intestine the patient is at once relieved of all the extreme symptoms, having only a feeling of soreness and tenderness remaining. But if it becomes impacted in the duct it soon excites inflammation, and jaundice is the result of the retention of the bile in the liver. If the concretion remains the jaundice increases, the liver enlarges and the gall bladder becomes much distended, and gangrene and death occur sooner or later. Sometimes adhesive inflammation sets up, and the stone, by progressive ulceration, works its way through to the intestine or through the walls of the abdomen. Sometimes their presence in the bladder causes adhesive inflammation between the bladder and the surrounding tissues, and the calculi ulcerate their way through the duodenum or even the abdominal walls. A case is on record of a gall-stone finding its way into the trunk of the portal vein, causing death. Another case is recorded of pressure of a mass of stones on the portal vein, causing death from obstruction to the circulation of the blood.

Treatment.—The main object of treatment is to relieve the pain and facilitate the passage of the gall-stone through the ducts. A vapor or hot water bath is useful to relax the system. *Extract of Belladonna* may be applied over the gall bladder, together with flannel cloths wrung out of hot water. *Morphine* should be given by mouth or subcutaneous injection to quiet the intense pain.

Inhalations of *Chloroform* are also exceedingly beneficial. I know of but two remedies which promise to be of service, *Nux vom.* and *Belladonna*. Both have the power to produce relaxation of irritated muscular fibre. I pointed out the differential diagnosis in my remarks upon gastralgia.

CHAPTER XI.

DISEASES OF THE LIVER CONTINUED.

PORTAL PHLEBITIS—CAUSATION—SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT. CIRRHOSIS—SYMPTOMS—CAUSATION—AGE—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT. FATTY LIVER—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. CANCER OF THE LIVER—PATHOLOGY—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. ACUTE YELLOW ATROPHY OF THE LIVER—SYMPTOMS—PROGNOSIS—CAUSATION—DIAGNOSIS—TREATMENT.

PORTAL PHLEBITIS.

THIS is an inflammation of the veins composing the portal system, and leads to the formation of coagula and consequent obstruction of the portal circulation. When attended with production of pus, the affection is called suppurative portal phlebitis.

The disease has been supposed to give rise to the formation of abscesses in the parenchyma of the liver exterior to the hepatic vessels.

The abscesses resulting from suppurative inflammation of the portal vein are very numerous and are called multiple hepatic abscesses, and they are generally near the periphery of the gland. They vary in size from that of a pea to a hen's egg.

The veins within the liver and in other parts of the portal system are sometimes found to contain pus.

Causation.—Suppurative portal phlebitis may arise from injury to some of the branches of the portal veins from surgical operations, from ulceration of the stomach or intestines, from abscesses in the spleen, from ulceration of the mesenteric glands, or from disease of the bile ducts.

Symptoms.—Pain in the epigastrium or right hypochondrium; jaundice occurs to a greater or less extent; chills occurring daily, frequently two or three times a day; accelerated pulse. Diarrhœa is present in the majority of cases, and

emaciation and debility speedily follow. Toward the last, delirium is present. There is generally more or less enlargement of the liver and spleen.

Diagnosis.—The diagnosis is difficult. The disease may be mistaken for intermittent fever or tubercular peritonitis.

Some years ago I made an autopsy of the body of a man who had been treated by a number of physicians, myself included. Various opinions were given as to the nature of the malady, no two agreeing. The symptoms were: pain and tenderness in the region of the liver, jaundice, irregular chills, hectic, emaciation, debility, diarrhœa, tympanites, and finally ascites and œdema of the lower extremities. Death occurred from asthenia. Examination showed multiple abscesses. The gland was thickly studded with them, varying from the size of a pea to that of a walnut. I could not learn the cause.

Prognosis.—This is very unfavorable, especially if the inflammation results in hepatic abscesses. The disease lasts from one to two months.

The disease is extremely infrequent. The case I have mentioned is the only one occurring in my practice.

Treatment.—*Hamamelis*, *Hepar* and *Silicia*, and general palliating and supporting treatment.

Multiple abscesses are the result of pyæmia as well as of portal phlebitis. In the latter case, however, the abscesses are generally confined to the liver, whereas in pyæmia they are also found in the lungs and other organs.

CIRRHOSIS.

(*Synonym*, HOB-NAILED LIVER.)

Cirrhosis is a disease of the liver of slow beginning, with symptoms of digestive derangement in some cases, in others with hepatic pains and enlargement and proceeding to atrophy of the liver, with debility, emaciation, anasarca and death.

Symptoms.—In many cases the first symptoms are referable to the stomach. There is flatulence, heartburn, pyrosis, occasional nausea and gastric distress. The bowels are irregular, sometimes constipated, sometimes loose. The dejections vary in color from a dark to a light hue, and are sometimes mixed with mucus. Pain in the right hypochondrium, more or less severe, is felt.

Hemorrhoids are a frequent accompaniment. The veins of the abdomen enlarge so as to form a visible net-work, stand-

ing out like cords. The skin is sallow and dry, the conjunctiva yellow, the patient becomes listless and dejected, and grows thin, anæmic and debilitated. After a period of from six to twelve months first ascites, and afterward general anasarca appear. Hemorrhages from the bowels or stomach are not infrequent. The urine is scanty, dark and turbid, and loaded with urates. The liver is somewhat enlarged at first but subsequently becomes much atrophied. The mind is usually clear, except toward the last, when delirium or coma may ensue from uræmia.

Death may occur from hemorrhage, bronchitis, pneumonia, coma, or from exhaustion. Cirrhosis is a disease of long duration. It may last from two to four years before ascites is developed, and from six to twelve months thereafter.

Causation.—The disease is universally recognized as the result of excessive use of alcohol. In England it goes by the name of *gin-drinker's liver*. It is more common in men than in women for the reason that men are far more addicted to the use of alcoholic beverages. As, however, all drunkards do not contract the disease, it is probable that some special susceptibility exists which renders the individual liable to it.

Occasionally cirrhosis arises from persistent hyperæmia of the liver during long continued attacks of malarial fever, and also from chronic heart disease.

Age.—Cirrhosis is generally a disease of middle life, between the thirtieth and fortieth year. Cases are sometimes found in much younger and much older persons. Wunderlich relates two instances found in girls aged respectively eleven and twelve years. Inquiry developed the fact that both were accomplished gin-drinkers.

Diagnosis.—Before the more characteristic symptoms of cirrhosis are manifested the diagnosis is difficult. The earlier symptoms being disorders of digestion, the disease is apt to be mistaken for dyspepsia.

If with deranged digestion there is a previous history of habitual drinking, inflammation of the liver, or repeated attacks of malarial fever, there is strong probability that degenerative disease of the liver has commenced. In advanced cases the diagnosis is more easily made. The habits of the patient, the decrease in size of the liver, enlargement of the superficial veins of the abdomen, abdominal dropsy, emaciation and increasing debility, render the diagnosis tolerably certain.

The ascites needs to be distinguished from ovarian cyst, hydatid tumors, and the ascites of general dropsy. A careful examination of each individual case, and the previous history of the patient, will generally be sufficient to prevent mistakes.

Prognosis.—While it is safe to say that the prognosis is bad, and the disease seldom curable, yet it is not best to announce that the patient must die soon, or at any definite time. Cases are on record of indefinite prolongation of life, and of death finally occurring from some other affection. A radical change in the habits, particularly before the disease has made serious inroads on the constitution, may arrest its course. As a rule, however, the prognosis of cirrhosis tends sooner or later to a fatal termination.

Pathology.—The first obvious change in the liver is hypertrophy; the second, atrophy. The hypertrophy is caused by the stimulating effects of alcohol. The connective tissue swells, fibrinous exudation takes place, occupying the portal canals, and extending into their minute ramifications. Livers examined while this process is going on are enlarged, are firm and tough, the external surface uneven, with commencing granulations, and the capsule more or less thickened. Adhesions frequently take place to adjacent parts, and when atrophy follows enlargement these adhesions are drawn out into bands by the subsequent retraction.

Subsequent to the organization of the exudation in the portal canals, contraction takes place with constriction of the vessels lying in the course of the new tissue, causing impediment to the circulation in the small branches of the portal vein and consequent starvation and wasting of the tissues adjacent to them.

The atrophied liver is often reduced to half its bulk, and presents a tubercular or granular surface, resembling the hob-nails of shoes, whence it derives one of its names. The edges waste first to a membranous condition, with nodules in the place of the parenchyma. The left lobe is more shrunken than the right. The consistence of the organ is firm and tough. The surfaces are studded with nodules from the size of a hemp seed to a quarter or half an inch in diameter. These nodules are also found throughout the interior of the liver, and are of a bright yellow or yellowish color from bile. On section, the cut surface presents a collection of round patches of dark color, and separated by firm whitish fibrous-looking tissue. These patches are the remains of the secret-

ing tissues of the organ. The cell-structure is greatly reduced, shrivelled up and degenerated. The circulation of the blood in the diseased lobules is much interfered with. Fine injections of the portal vein do not penetrate the interior of the affected lobules. The hepatic vein may be traced to the center of the lobules, but their capillaries have disappeared. In consequence of these changes the communication between the portal and hepatic veins is nearly destroyed, and the portal blood passes only in small quantities.

The ultimate results of these changes are great reduction of the bile producing capacity of the liver, portal congestion, transudation of the serum of the blood, imperfect digestion, innutrition, anæmia, hemorrhages and death.

Treatment.—If the excessive use of alcoholic drinks is the cause of the disease, a radical reform in the habits of the patient is necessary. Confirmed cirrhosis is incurable, but if treatment is begun before the disease has made much progress its course may be indefinitely arrested. Much depends, however, upon the habits, constitution and age of the patient. If drinking has not been carried to excess, if the constitution is not much weakened, nor the patient far advanced in years, medicine may do much toward retarding the progress of the malady, and life be prolonged many years.

The remedies which promise most benefit are: *Arsenicum*, *Nux vomica*, *Carbo veg.* and *Pulsatilla*.

As no medicine but *Alcohol* produces the disease, it is impossible to prescribe homeopathically for it. As some of the remedies mentioned are antidotes to the effect of *Alcohol* they may in consequence do good.

As the earlier symptoms are similar to those of dyspepsia the remedies indicated for indigestion are appropriate.

When the disease has progressed so far as to seriously impede the portal circulation, and cause effusion into the peritoneal cavity, puncture of the abdominal walls should be resorted to.

It is not best to wait until the accumulation is excessive, and the functions of the heart, lungs and kidneys greatly impaired. Early and repeated puncture is earnestly recommended by many eminent authorities.

The removal of the effused fluid relieves the pressure upon the vital organs, facilitates the establishment of a collateral circulation, and sets the absorbents free to act.

One writer asserts that on removal of the pressure from the kidneys more urine is eliminated, and that patients with

much ascites who, notwithstanding the use of diuretics, have been passing only a small quantity of urine, containing much albumen, will, after paracentesis, and independently of drugs, void large quantities free from albumen.

The same author quotes the experience of Dr. Lyons, of Dublin, in a case which he tapped thirty-six times, at intervals of three or four weeks, withdrawing from fourteen to sixteen quarts on each occasion, with the effect of bringing the disease to a stand at the end of one year after the last operation. I recommend withdrawal of the fluid by aspirator, on account of the little pain attending the operation, its greater safety, and the more gradual escape of the fluid.

FATTY LIVER.

This is due to an abnormal deposition of fat in the secreting cells of the liver. The gland *always* contains a certain proportion of fat, usually three or four per cent of the whole liver substance.

Symptoms.—The liver is enlarged, smooth, the edges flattened and swollen, the lower margin being more distinctly rounded than elsewhere. The organ is soft and flabby, not resistant to the touch. The peritoneal covering is smooth, shining and tense, and of a light yellow color. Fatty degeneration of the substance of the liver occurs, so that really the liver is smaller than natural though appearing larger from the great increase of oil globules. There is neither pain nor tenderness on manipulation; the skin assumes a soft velvety feel, is semi-transparent and waxy in appearance; dyspepsia, diarrhoea, or hemorrhoids, may be present as a consequence of the obstruction of the circulation in the portal vein from pressure of the enlarged hepatic cells upon the capillaries. The secretion of bile is also interfered with from pressure upon the minute ducts. Ascites is infrequent.

Causation.—Indolent, luxurious habits of life and excessive drinking are predisposing causes of fatty liver. It is also associated with pulmonary tuberculosis, tubercular deposits in the mesentery and other parts of the body, with cancer, ulcer of the stomach and chronic dysentery. Louis asserts that fatty liver was found in forty out of one hundred and twenty cases of phthisis.

Diagnosis.—Increase in size, smoothness of surface, rounded borders, and softness, are diagnostic signs. The fatty liver is not so much enlarged and less resistant than the waxy liver. The habits of the patient, or coincident tuber-

cular disease are also to be considered. In a considerable proportion of cases of fatty liver there will also be present accumulations of fat in other organs and tissues of the body, and this feature is of importance in determining the diagnosis.

Prognosis.—As to ultimate recovery and disappearance of fat from the liver, the prognosis is unfavorable, the patient slowly dying from general disturbance of the diseased organ.

Treatment.—This relates more to the regulation of the diet and to change in habits of life than to medication. The same general principles should be observed as are indicated in the treatment of cirrhosis.

When occurring in connection with tuberculosis and cancer the treatment will need to be directed to the coincident affections.

CANCER OF THE LIVER.

The two most frequent organic diseases of the liver are cirrhosis and cancer, the latter occurring more frequently than the former.

While nearly every form of cancer may be met with in the liver, the medullary and scirrhus are the most common.

The disease is either primary or secondary. In the former case it is limited, and, except to neighboring structures, it rarely spreads further. The peritoneum covering the liver, duodenum, diaphragm and pancreas, are liable to become involved.

Secondary cancer follows the appearance of the disease in some other part of the portal system, most frequently in the stomach but occasionally in the pancreas and spleen. It may also result from cancer of the mammae, uterus, ovaries, testicles and lungs. In ninety-one cases of hepatic cancer forty-six were associated with those organs whose venous blood flows to the liver, and of these, thirty-four were cases of cancer of the stomach; twenty-three other cases were secondary to carcinoma in other organs, leaving only twenty-two cases in which the liver was primarily diseased—about one-fourth of the entire number.

Hepatic cancer is said to present the characters of ordinary simple cancer, and according to the predominance of the fibrous element or of the cancer juice, to belong to the scirrhus or medullary variety. Other forms are occasionally met with, as melanotic, sarcomatous, cystic and colloid.

Pathology.—Cancer of the liver appears in nodules from the size of a pea to that of an orange. When of large size the nodules are few; when small, more numerous. Frequently one or two large nodules and many small ones are found.

Generally the substance of hepatic cancer is of a lardaceous consistence, less often hard and gristly, and sometimes soft and pulpy.

A section presents a dull white color, interspersed with red lines and streaks from enlarged capillaries. On pressure a milky juice exudes, more abundant in the soft varieties. Changes also occur in the circulation of the liver, as the deposition of cancerous matter takes place. The branches of the hepatic artery increase in size, while the branches of the portal and hepatic veins decrease. The walls of the enlarged arteries are thin, and are occasionally ruptured, causing extravasation of blood in the parenchyma of the organ. The larger branches of the portal vein are sometimes compressed by the cancerous deposit, and obstruction of the circulation follows. Compression of the bile ducts, with resultant jaundice, is not uncommon.

Symptoms.—Pain and uneasiness in the region of the liver increased by pressure; enlargement sometimes very great, the gland, in some instances, attaining the weight of fifteen pounds. Rarely the enlargement is so small as not to be noticeable during life. The enlarged organ has a nodulated and irregular form, which, when well marked, facilitates diagnosis. Jaundice, ascites, and œdema of the lower limbs are present in a certain proportion of cases. The urine is usually scanty.

In the earlier stages of the disease there are gastric derangement, impaired appetite, nausea, vomiting, constipation, flatulence and eructations of fetid gas. In the later stages palpitation, dyspnœa and irregular action of the heart are apt to be induced. The patient becomes emaciated and debilitated, the countenance assumes a cachectic appearance. Sudden death may occur from rupture into the peritoneal cavity or perforation of the diaphragm; inflammation of the peritoneum or pleura may speedily terminate life. Or, as is more common, the patient may gradually perish from progressive emaciation and exhaustion of the vital powers. The duration of the disease is from three to eighteen months.

Causation.—Hereditary predisposition is the only known cause. It rarely occurs before the age of thirty-five, the mean age being forty-eight.

Diagnosis.—The situation of the pain and tenderness, the increase in the size of the liver, its nodulated form, and the cachectic appearance of the patient, make the diagnosis tolerably certain. Cases, however, do occur in which it is far from easy to establish the diagnosis, and only an autopsy can reveal the cause of death.

Prognosis.—Cancer of the liver is incurable. Some forms are not so rapidly fatal as others, but in all the prognosis is hopeless.

Treatment.—This can only be palliative. The only things the physician can accomplish are relief from pain and the various distressing symptoms which accompany the disease.

First to be considered are the remedies for the dyspeptic symptoms. These are *Nux vom.*, *Ipecac*, *Pulsatilla*, *Ant. crudum*, *Carbo veg.* I have already given special indications for their administration in the article on dyspepsia.

They are also calculated to promote the assimilation of food. The proper nourishment of the patient is an important consideration. The diet should be light, nutritious and easily digested. Food should be taken in small quantities, and frequently. Lean meat, broths, soups, vegetables, milk and bread should constitute the principal articles of diet.

To relieve pain and procure sleep *Opium* and 2d dec. trit. of *Atropine* should be given in sufficient doses to produce the desired effect.

If the ascites becomes burdensome the fluid should be removed by aspiration.

ACUTE YELLOW ATROPHY OF THE LIVER.

This affection, also called malignant jaundice, typhoid icterus, and hemorrhagic icterus, was first described by Rokitsansky under the above head. The disease has been carefully studied and described by Frerichs, and cases are reported by physicians of this country and of Europe.

In this affection the liver undergoes a rapid and well marked reduction in size; sometimes diminishing one-half or two-thirds. In one case the weight was less than two pounds. The organ is flaccid, and presents a puckered appearance. It is soft and friable, and sometimes almost pulpy. The cut surfaces are of the color of yellow ochre or rhubarb. The small portal and hepatic veins are destroyed, also the hepatic cells. In advanced stages of the disease there appears to be complete disorganization of the tissues. The gall bladder

and bile ducts are empty. Enlargement of the spleen is present in a majority of cases.

Symptoms.—The disease either develops abruptly, or has precursory symptoms, denoting disorder of the digestive organs. With or without the premonitory symptoms jaundice soon occurs, resembling, as regards the color of the skin, ordinary jaundice. Intense headache and delirium either appear simultaneously with the jaundice or after a variable period of from two to twenty days. The delirium is usually active and violent, but sometimes mild. Convulsions occasionally occur. Stupor succeeds to the delirium, deepening into profound coma. The pulse at the first invasion is slow, but when delirium appears it increases in frequency, varying from eighty to one hundred and twenty beats per minute.

The temperature is increased only in the later stages. Hemorrhages take place in the stomach, intestines and uterus. Occasionally there is hæmaturia. Pain and tenderness on pressure are present in the right hypochondrium. During stupor and coma the respiration is irregular, sighing or stertorous.

The duration of the disease is short, ranging from four to twenty-four days.

Prognosis.—The prognosis is highly unfavorable, recovery rarely taking place.

Pathology.—Rokitansky attributes the morbid changes to an excessive secretion of bile. Bright, Frerichs and others consider the morbid process inflammatory, and regard the disease as parenchymatous hepatitis.

Causation.—The causation is obscure. The affection occurs oftenest between the ages of twenty and thirty years, and in women oftener than in men.

Diagnosis.—The chief diagnostic points are: the rapid diminution in size of the liver, the jaundice, and the speedy occurrence of delirium. Other diseases may be excluded by carefully recognizing the distinctive features of each.

Treatment.—I can only suggest a few remedies which may be indicated by the symptoms presented: *Arsenicum*, *Belladonna*, *Hyoscyamus*, *Hamamelis* and *China*.

CHAPTER XII.

DISEASES OF THE PANCREAS AND SPLEEN.

DISEASES OF THE PANCREAS—SYMPTOMS—DIAGNOSIS—PROGNOSIS—
TREATMENT. DISEASES OF THE SPLEEN—SYMPTOMS—DIAGNOSIS—
PROGNOSIS—TREATMENT. SPLENALGIA—SYMPTOMS—TREATMENT.

DISEASES OF THE PANCREAS.

THE pancreas is subject to acute and chronic inflammation, to hypertrophy, atrophy, suppuration, fatty and amyloid degeneration, cystic tumors, obstruction and cancer. Calculous concretions have also been occasionally found in its duct.

From the situation of the gland, and its intimate relations with larger organs, it has been difficult to determine with any degree of certainty the extent and character of morbid processes going on in it.

Disease of the gland is also so often co-incident with affections of the neighboring structures that it is particularly difficult to dissociate them.

The pancreas is a conglomerate body, analogous in structure to the salivary glands, lying transversely across the abdomen behind the stomach, its head embraced by the duodenum, and the smaller end extending to the spleen. Its length is from six to eight inches, its breadth about one inch and a half, and its weight from two to three ounces. It secretes an alkaline fluid, possessing the property of emulsifying fats and preparing them for assimilation, and also of transforming starch into dextrine and grape sugar.

Symptoms.—The symptoms are obscure. Nearly all affections of the organ are characterized by enlargement, pain and tenderness on pressure in the epigastrium, a sensation of heat and constriction, salivation, vomiting of a ropy, tenacious fluid, eructations, debility and emaciation. Constipation is usually present. If there is diarrhœa the dejections

consist of a stringy, viscid mucus. A remarkable symptom connected with lesions of the pancreas is the occasional discharge of large quantities of fatty matter from the bowels. It is sometimes in a mass and sometimes floating like a crust on the surface of the vessel. It is supposed that the presence of fat in the dejections is due to the absence of the pancreatic fluid, from occlusion of the duct or a vitiated condition of it.

Scirrhus appears to be the most common malady affecting the pancreas. In the majority of cases it is located near the head of the gland, and is generally an extension of the disease from neighboring organs.

Diagnosis.—The diagnosis cannot be determined with any certainty. Dr. Wardell says: "The functional affections of the pancreas cannot be recognized, and it is only when its maladies have made progress and the other viscera have become implicated that they can with anything like certainty be inferred. The low degree of sensibility with which the organ is endowed, and the great sensibility of organs with which it lies in juxtaposition, its depth in the abdomen, the inconsiderable effect which its lesions exert upon the circulatory, nervous and secretional systems, and the resemblances which the diseases of the liver, stomach and duodenum, bear to those of this gland, are some of the many causes constituting this difficulty. Strict regard should be paid to the symptoms, and the complaints incident to the stomach, liver, spleen and duodenum, should as far as possible be excluded."

The most pathognomonic symptoms are the vomiting of tenacious, ropy fluid, the passage of the same from the bowels, and the presence of fat in the dejections, though the last may result from disease of the duodenum.

Prognosis.—The prognosis is very unfavorable.

Treatment.—Not much good can be hoped for under any method of medication.

The indications are to control the symptoms as they arise with appropriate remedies; to keep up the patient's strength with bland, nourishing diet, such as soups, jellies, milk, and farinaceous food. If there is much pain, anodynes should be administered.

The principal remedies indicated in diseases of the pancreas are *Belladonna*, *Conium*, *Hepar*, *Silicia*, *Merc.*, *Calc. phos.*, *Arsenicum* and *Secale*.

In the absence of positive diagnosis, the difficulty of which

I have already pointed out, it will be possible to only give hints for the administration of remedies.

BELLADONNA for congestion.

CONIUM, hypertrophy and induration.

HEPAR SULPH., in suppuration.

SILICIA, abscess.

MERCURIUS, catarrhal inflammation of the duct.

CALC. PHOS., tuberculosis.

ARSENICUM, cancer.

SECALE CORNUTUM, softening.

DISEASES OF THE SPLEEN.

The spleen is situated in the left hypochondrium in close relations to the stomach and pancreas, is of an oblong and flattened form, weighing on an average six ounces. It is about five inches in length and three in thickness. The external surface is convex and separated from the lower ribs by the diaphragm. The internal surface is concave and divided by a vertical fissure, the *hilum*, where are the points of entrance and exit of the vessels and nerves. It is abundantly supplied with blood vessels, the arteries and veins being both of large size in proportion to the size of the organ. Its vein is one of the four which unite to form the portal vein.

The spleen is a ductless gland—in this respect resembling the thyroid, thymus and supra-renal capsules, but whether they all have similar functions is not yet determined.

There has been much discussion respecting the functions of the spleen, and many theories have been advanced. One writer regards it as an unimportant organ in the animal economy, adducing in evidence that it has been removed without injury to the health, and considers that its office is that of affording an adequate supply of blood to the stomach and liver, and to act as a reservoir for the blood when the balance of the circulation is deranged; while still another office is to secrete an albuminous fluid which performs some part in the process of sanguinification. Another's investigations lead him to conclude that the function of the spleen is to regulate the quantity and the quality of the blood.

Dr. Carpenter says: "That the office of the colorless parenchyma of the spleen is not only to serve as a store-house for the surplus albumen that finds its way into the circulation on the completion of the digestive process, but also to excite an assimilating action upon it, whereby it is rendered more fit for the nutrition of the tissues, and of this assimi-

ting action we deem the generation of fibrine to be one of the results. And if it be true, as we have suggested, that one special function of the red corpuscles is to assimilate or prepare that peculiar combination of materials which is required for the nutrition of the nervo-muscular apparatus, the disintegration of these capsules in the splenic parenchyma may answer the two-fold purpose of regulating their total proportion in the mass of the blood, and of diffusing through the liquor sanguinis the material which the nerves and muscular tissues are to draw from it for their own development."

Another author says: "The most recent view of the function of the spleen seems to be that this organ is concerned in the organization of the albuminous or formative matters of the food, and in gradually introducing them into the blood when they are needed, as well as in helping to develop the germs of subsequent colorless and colored corpuscles. Subordinate to these offices the spleen may likewise serve as a kind of a diverticulum to the gastric circulation, and perhaps to the portal system. Certainly this gland is smaller while digestion is going on than it is after this function is concluded, at which time it readily becomes distended."

The spleen is liable to a variety of diseases, such as simple enlargement, congestion, inflammation, softening, abscess, cancer, tuberculosis, amyloid degeneration and hydatid cysts.

Diseases of the organ are limited to no particular period of life. Males are more subject to them than females from their more frequent out-door occupations and consequent exposure.

With respect to the causes operative to produce disease none are more prolific than malarial miasm. From the time of Hippocrates to our own, writers have been agreed on this point. Modern authorities in all parts of the world have universally pointed out the malarial origin of the majority of the affections incident to this organ. Where malarial fevers are most rife, as on the coast of Africa, in the East Indies, and in the southern states, there splenic congestions are most frequently met with.

Other causes are diseases of the liver and heart, emphysema of the lungs, amenorrhœa, suppressed hemorrhoids and cutaneous eruptions, external injuries, excessive drinking of cold water, and sudden chills after perspiration and fatigue; in short, anything which causes a sudden determination of blood to the internal organs may induce congestion and subsequent enlargement of the spleen.

As congestion and hypertrophy of the spleen are much more frequently observed than any other form of splenic disease I deem it advisable to consider this lesion more particularly.

Although enlargement of the liver may be caused by heart disease and by impediment to the hepatic circulation, yet, by far the greater number of cases are the result of malarial influence and the blood changes which malarial poisoning produces. The spleen, being repeatedly engorged with blood during the cold stage of intermittents, the fibrous structure and the parenchyma become hypertrophied. Whether this occurs from excessive arterial action, or inability of the veins to remove the blood, is not fully decided. The result is the same in either case.

Symptoms.—Dullness, aching and dragging in the side. If the congestion is sudden there will also be positive pain, with more or less fever. The patient complains of a feeling of fullness under the edge of the ribs, with tenderness and soreness on pressure. There is often some cough, and pain on lying on the left side. The pain often extends into the shoulder. Digestion is disturbed, and the power of assimilation impaired. Eructations and flatulence are common. Appearances of the malarial cachexia are usually present; such as a sallow, dull facial expression, pale conjunctiva, lips and gums, flabby tongue. If the organ is much enlarged it descends in the abdominal cavity, and can be detected by the touch.

Diagnosis.—Enlargement of the spleen needs to be distinguished from ovarian tumor, impacted colon and tumors in the abdominal walls.

Ovarian enlargement is first discovered lower down, and there is resonance between it and the edge of the ribs. An impacted colon has an irregular outline. Tumors are harder and broader, with edges less defined than is the case in splenic enlargement.

Prognosis.—When the disease is the result of malarial influence, with no severe constitutional disturbance, the prognosis is favorable. But if the result of heart or hepatic affection, or if the enlargement is very great, or has lasted a considerable time, the prospect of cure is not promising.

Treatment.—When enlargement of the spleen is induced by miasmatic influence, and occurs in connection with malarious fevers, the cure of the primary affection will usually be

followed by restoration of the organ to its normal condition. Chronic enlargement, however, demands specific medication.

The remedies having special relations to diseases of the spleen are: *Anacardium*, *Arnica*, *Arsenicum*, *Bryonia*, *Carbo veg.*, *China*, *Lachesis*, *Nat. muriaticum*, *Hepar sulphur* and *Silicia*.

ANACARDIUM.—Dull stitches in the region of the spleen.

ARNICA. Stitches in the splenic region, with soreness on pressure.

ARSENICUM.—Drawing, stitching pain in left hypochondrium; tensive, pressive pain in spleen; induration and enlargement of spleen; inability to lie on left side.

BRYONIA.—Stitches in the region of the spleen. This last remedy and *Anacardium* are more especially indicated in splenalgia, or simple congestion of the spleen.

CARBO VEG.—Pressing, pinching in region of the spleen; quick, lightning-like stitches. Left hypochondrium painful to the touch.

CHINA.—Stitches in the region of the spleen, worse when walking; swelling and induration of the spleen; enlargement of the spleen *after protracted intermittents*.

LACHESIS.—Violent pain in the region of the spleen; stitches in the left hypochondrium; pain in the left hypochondrium.

NATRUM MUR.—Stitches and pressure in the region of the spleen; enlargement of the spleen; sticking pressure in left hypochondrium, worse on walking; stitches in left hypochondrium on taking deep inspirations.

HEPAR and SILICIA will be indicated if abscess of the spleen be suspected.

SPLENALGIA.

This complaint is not infrequently met with in children after violent physical exercise, and in professional runners and wrestlers. Its causes are sudden and powerful muscular exertions, a morbid sensibility of the nerves of the part in hysterical females, or a sudden and prolonged chill. Any cause which rapidly determines the blood to the vital organs may cause splenalgia. The spleen, acting as a diverticulum, receives the excess of blood, and the rapid distension with blood renders its tunics tense and painful.

Symptoms.—The pain comes on suddenly in the region of the spleen. There is sighing, difficulty in taking a deep inspiration, involuntary support of the side with the hand, a

curving of the body to the left, and an unwillingness to move. The pulse and temperature are normal.

Treatment.—The remedies are: *Anacardium*, *Arnica*, *Bryonia* and *Sulphur*.

ANACARDIUM.—Dull stitches in the region of the spleen.

ARNICA.—Stitches in the splenic region, soreness on pressure.

BRYONIA.—Stitches in the region of the spleen.

SULPHUR.—Swelling and hardness of the spleen, with pain when running; frequent shooting pain in left hypochondrium.

Respecting other affections of the spleen, the general symptoms are much the same as those already mentioned.

The diagnosis is attended with so much difficulty that it can seldom be made with any accuracy.

The prognosis must be doubtful on account of the uncertain nature of the complaint.

The treatment must be adapted to the subjective symptoms, and must needs be largely empirical and tentative.

SECTION THIRD.

DISEASES OF THE CIRCULATORY SYSTEM.

CHAPTER I.

THE HEART.

SIZE, POSITION AND SOUNDS OF THE HEART—METHODS OF PHYSICAL EXAMINATION—PALPATION, PERCUSSION AND AUSCULTATION.

IN order to make a correct diagnosis of cardiac disease the size, position, sounds and surroundings of the heart should be carefully studied.

The heart is a hollow muscle placed in the cavity of the thorax, and kept in position by the great vessels springing from its base, and the attachment of its enveloping membrane to the diaphragm. It lies in this membrane, with its long axis directed downward and to the left. Its size is about that of the closed fist. Its average weight in men is nine and one-half, and in women eight and one-half, ounces. The interior is lined by a serous membrane, the endocardium, which is reflected over the valves placed at the openings for the entrance and exit of the blood. These valves lie close together, occupying a space about one inch square.

The upper border of the heart corresponds to a line drawn across the sternum on a level with the upper border of the third costal cartilage, the lower to a line beginning in the fifth costal space, one inch to the right of the nipple, and drawn across to the lower end of the gladiolus.

Laterally it extends from the median line three inches into the left chest, and one and a half inches into the right chest. The sounds of the healthy heart are two. The first is caused

by the closure of the auriculo-ventricular valves, the impulse of the heart against the chest, the opening of the semilunar valves, and the rush of the blood through them. The second is caused by the quick closure of the semilunar valves. The first sound is long and dull, the second short and sharp. During its occurrence the blood flows from the auricles into the ventricles.

In listening to these sounds the stethoscope should be placed as follows: for the sound of the mitral valve we listen over a spot just above the apex beat of the heart, for the tricuspid over the center of the sternum, on a horizontal line with the first position, for the aortic at the right edge of the sternum, at the second intercostal space and downward to the third intercostal space, and for the pulmonary at the left edge of the sternum, in the second intercostal space.

Three methods of physical examination of the heart are practiced; namely, palpation, percussion and auscultation.

The first is employed to detect projections of the organ, its impulse against the chest wall, and thrill; the second to determine greater or less area of dullness, thus deciding size and position; the third to ascertain the character of normal and abnormal sounds.

In examinations of the heart the point of departure for measurement is the apex. This is between the fifth and sixth ribs, about two inches below the nipple and one inch to the right of it. It must not be forgotten that various normal and morbid conditions may change its situation. It is changed by distention of the stomach, by flatulence and by the act of respiration.

The changes in position of the heart by disease are many. It may be crowded to one side or the other by accumulation of fluid in the right or left chest. It is tilted upward and outward by the left lobe of an enlarged liver. It is forced upward by pericardial dropsy, and extends further downward and laterally in hypertrophy of the organ itself.

CHAPTER II.

DISEASES OF THE HEART.

PERICARDITIS—ANATOMICAL CHARACTERS—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. ENDOCARDITIS—CAUSATION—SYMPTOMS—TREATMENT.

DISEASES of the circulatory system are seated in the heart, the blood-vessels and the blood. Some of them, especially those of the blood-vessels, are fully considered in works on surgery, and are more particularly within the province of the surgeon.

Diseases of the heart and vessels are much better understood now than formerly, owing to greater knowledge of the physical signs attending them and the thorough researches of specialists in this class of affections.

The diseases of the heart may be divided into three classes: *First*, Inflammatory affections; *Second*, Structural changes; *Third*, Derangement of function, or functional diseases of the heart.

Inflammatory disease may attack the sac containing the heart, constituting what is called pericarditis. Inflammation of the endocardium or lining membrane of the heart is called endocarditis, or the muscular structure may be inflamed, when we shall have myocarditis.

PERICARDITIS. .

Pericarditis, or inflammation of the investing membrane of the heart, may be either acute or chronic.

Anatomical characters.—The anatomical changes are the same which occur in inflammations of serous membranes elsewhere. First redness and congestion of the capillaries, then an exudation of fibrin or coagulable lymph, soft at first, but becoming more and more dense as the disease progresses. More or less liquid effusion takes place as in pleuritis. As

in pleural effusions the presence of serum alone is not indicative of inflammation of the pericardium, or rather it proves the absence of inflammation; like dropsy in other situations, it shows that the cause is elsewhere.

If the disease progresses favorably absorption takes place, first of the serum and then of the lymph, leaving bands of organized tissue between the heart and pericardium, or adhesion between the opposing surfaces may take place, or even complete obliteration of the sac.

The disease may be divided into two stages—first of congestion and effusion, and the second of absorption.

Pericarditis rarely, if ever, is an idiopathic affection, but occurs in conjunction with some other disease. It occurs in the course of rheumatism, Bright's disease, and pleuritis, either with or without pneumonia. The symptoms are pain, acute and lancinating, aggravated by inspiration. The pain is not always severe. A dry, irritable cough, suppressed as in pleuritis, is generally present. There is pain on pressure, over the heart and upward from the epigastrium, restlessness and distress are frequently manifested, the action of the heart is increased often to palpitation, the pulse is quick. These are the symptoms prior to effusion. Effusion may take place in from a few hours to two or three days. The character of the symptoms is then changed. The pain and soreness diminish; according to the amount of effusion, there is more or less sense of oppression and faintness, an unwillingness to make any muscular exertion, feebleness and irregularity of the pulse, dyspnoea, inability to assume a recumbent position, weakness of the voice; vomiting occasionally occurs. Disturbances of the brain occur, at times amounting to delirium; occasionally convulsions ensue. These disturbances, however, are sympathetic, as post-mortem examinations show no lesions of the brain.

The gravity of these symptoms correspond with the amount of the effusion. If very great, life may be speedily destroyed. The distress in these severe cases is very great. The restlessness and dyspnoea are extreme, and death ensues from paralysis of the heart's action, due to compression by the effused liquid.

Causation.—It may be produced by wounds or contusions of the chest. Excluding this cause, it is almost always secondary, occurring, as I have before said, in the course of acute articular rheumatism, pleuritis, and Bright's disease of the kidneys. It occurs oftener in connection with rheuma-

tism than with any other disease. I have been surprised in looking over statistics to find how frequently articular rheumatism involves the pericardium. One author gives the number as high as seventeen in a hundred cases. I have not often met with the complication in my experience, but possibly have overlooked some mild cases. I would call attention to the importance of examining the heart frequently in all cases of rheumatism met in practice. Sometimes the disease exists as a sequel of scarlatina. In connection with pleuritis it probably is an extension of the inflammation from the pleura.

Diagnosis.—The diagnosis can only be made with certainty by the aid of the physical signs. Without these it may be confounded with pleuritis and pneumonia, and in slight cases with pleurodynia. The sound which is diagnostic in this disease is that which is produced by the friction of the opposing surfaces covered with lymph. This is the same sound as is heard in pleuritis, and is distinguished from it by its location over the heart, and by its being synchronous with the *pulse* instead of with the *respiration*. It is also heard more distinctly during expiration, the walls of the thorax more nearly approximating the pericardium at that time. The converse is true in pleuritis, the friction murmur being more distinct during inspiration. This friction sound is of all degrees of intensity, from a slight roughness to a loud rasping sound. The sound is like the crumpling of parchment, the creaking of new shoes, or the grazing of cattle. When heard synchronous with the beat of the heart it is diagnostic of pericardial inflammation and exudation. Another sign when effusion has taken place is dullness under percussion. It must be remembered that we have dullness on percussion over the heart in health, but this dullness is limited to quite a small space, about two and one-half inches transversely and still less vertically. Now if this area of dullness be much increased we may diagnose effusion within the pericardium. If much liquid be present there will be unusual prominence of the part, and the intercostal spaces will be distended. There will also be broncophony. Decreasing dullness indicates absorption of the effused liquid.

As in pleuritis, the friction murmur is not heard after considerable effusion has taken place. The sac is so much distended that the walls are no longer in apposition. Should it reappear after having once ceased it may be regarded as a favorable symptom, for it indicates that absorption is taking

place. The apex beat of the heart is changed in volume and position. It is weaker, higher up and further to the left. The valvular sounds are also diminished in intensity according to the amount of effusion.

Prognosis.—The prognosis is according to the severity of the attack. If the effusion is large and rapidly poured out the situation of the patient is a dangerous one, and death may occur from paralysis of the heart. A sudden death from this cause is by no means common, death generally ensuing in fatal cases in from seven to fourteen days. In either case the cause of death is prolonged compression of the heart. Recoveries are, however, the rule, and death the exception, especially when resulting from rheumatism or pleuritis. In association, however, with Bright's disease it proves more fatal in its results owing to the debilitating effects of the primary disease. If the acute attack does not subside in two or three weeks the disease becomes chronic, but the symptoms, objective and subjective, are the same as in the acute form.

Treatment.—The remedies in the acute form are *Cactus grandiflorus*, *Aconite*, *Bryonia*, *Digitalis*.

Cactus.—This remedy, though of more value in other forms of heart disease, is yet, to judge by its pathogenesis, of considerable value in pericarditis. It has the following symptoms showing its adaptation to the complaint: pains impeding breathing and movement, oppression, cannot lie on left side, pulse quick and throbbing, dull, heavy pain, worse on pressure, suffocating respiration, increased præcordial dullness, dyspnœa.

I have never tried this medicine in pericarditis, though I have used it often in other affections of the heart. One peculiar sensation it has is that of a hand grasping and constricting the heart. This symptom we are more likely to have in functional derangement, and it is in this class of affections that I think *Cactus* more curative than in organic lesions.

In traumatic inflammation **ARNICA** and **ACONITE** would be indicated. In the first or congestive stage of the disease I should prescribe *Aconite*. Allen gives the following symptoms: dreadful oppression in the præcordial region, anxiety in the cardiac region with quicker and fuller beats of the heart, inward pressing pain in region of the heart, palpitation with great anxiety and difficulty of breathing, palpitation of the heart with great anxiety and restlessness, and pressive

pain in the cardiac region. This is a pretty good picture of the disease.

BRYONIA is indicated here as in pleuritis, and for the same class of symptoms. We must bear in mind that all the symptoms are due to inflammation and consequent exudation from a serous membrane, and that the situation of this inflammation is the cause of the symptoms peculiar to the disease. There is no reason why *Bryonia* should not relieve as speedily and efficiently here as in like cases elsewhere. The beneficial effects of *Bryonia* in rheumatism would also be an additional reason for its use when the cardiac disease is the result of rheumatism.

DIGITALIS is rather indicated when the disease is disposed to take on the chronic form, or occurs *during* Bright's disease. Bæhr asserts its value loudly not only in the chronic but the acute form of pericarditis. He gives as the indications for its use: an insidious slow approach of the disease with copious serous effusion, rapidly increasing dyspnœa [which would certainly be the case in large effusion], livid face, with headache, vertigo and delirium. Lastly, if the effusion be large, the dyspnœa excessive, the compression of the heart violent, we should not hesitate to resort to aspiration, withdraw the serum and relieve the pressure upon the heart. I am confident that life may be saved by its use, and that we may prevent the return of the liquid by the proper remedies. The immediate danger is from mechanical pressure.

Chronic pericarditis requires the same medicines as acute. Many more remedies might be mentioned as pathognomonic to some phases of pericarditis. I have indicated those which in my experience have proved most valuable, and which, carefully selected with regard to the symptoms, will prove efficacious in a large majority of cases.

ENDOCARDITIS.

Endocarditis is inflammation of the lining membrane of the heart. It is a much more serious and important disease than pericarditis, because of its relation to the valves and openings of the heart. The disease may be either acute or chronic.

The disease has been produced artificially in animals by injecting lactic acid into the blood-vessels, and the pathological anatomy studied in them. The results show redness and swelling of the valves from exudation of lymph and serum

beneath the membrane. Some exudation also takes place on the membrane covering the valves and tendinous cords. The exudation becomes aggregated in small masses from the size of a mustard to that of a millet seed. These become the nuclei of excrescences attached near the valves. The excrescences detached and carried into the circulation become emboli.

The serous membrane covering the valves loses its polished smooth surface and becomes rough and velvety, and the valves themselves become puckered and contracted, or form morbid adhesions to the opposing surfaces. Ulceration is an occasional event. The left cavity of the heart is more liable to inflammation than the right. This, when occurring in the course of rheumatism, is supposed to be due to some morbid material in the blood, which acts first upon this side of the heart. If such is the case this material must be generated during the passage of the blood through the lungs. This seems, however, to be mere hypothesis.

Symptoms.—The symptoms of endocarditis are rather obscure. The pain is of a dull character or there may be only a sense of uneasiness in the præcordial region, the action of the heart is quickened and stronger than normal or it may be irregular. Palpitation is a pretty constant symptom. Fever is sometimes present. The physical signs give the endocardial murmur, due to the roughening of the surface by the deposit of lymph. It generally accompanies the systolic sound, and is heard near the apex of the heart. But this alone is not indicative of the disease. If heard in conjunction with the other symptoms, and if the sound is developed during the course of the disease, we may diagnose, with tolerable certainty, endocarditis. But if the murmur is present during the first examination of the case it cannot be relied upon. At best, the diagnosis of the disease is based rather upon supposition than upon well defined symptoms.

Causation.—The most frequent cause of the disease is articular rheumatism, though a certain proportion of cases occur idiopathically. Occasionally it occurs in the course of Bright's disease.

Prognosis.—There is seldom any immediate danger to life. The chief sources of danger are in the remote consequences of the disease, emboli and valvular lesions. The emboli, passing through the arteries, may become lodged in different organs of the body; as, the kidneys, liver, spleen, brain, etc. Generally the disease gives rise to no important symptoms,

and the patient may be unaware for years that anything serious is the matter with him. In the course of time, however, hypertrophy, with valvular derangement, is apt to follow endocarditis, which will be considered in speaking of valvular disease of the heart, with hypertrophy and dilatation.

Treatment.—If the disease is the result of rheumatism the treatment should be directed to the cause. The general remedies adapted to the treatment of the rheumatic disease will control and subdue the accompanying affection of the heart.

If it is idiopathic, remedies suitable to inflammations of serous membranes are also applicable here. *Aconite* and *Bryonia* are the principal ones.

It is exceedingly rare that the physician is called upon to treat an uncomplicated case of endocarditis. It will either be complicated with rheumatism, or it will have developed into a more advanced stage of disease of the valves and other lesions of the heart.

Remedies are prescribed by Raue, Bæhr and other authors, but as the symptoms which they give in nearly every case indicate either hypertrophy, or hypertrophy with dilatation, with consequent obstruction or regurgitation of blood, I prefer to defer speaking of treatment until we come to the consideration of these conditions.

I have said that *Aconite* and *Bryonia* are indicated in uncomplicated cases of endocarditis, but when it is a sequence or accompaniment of rheumatism the remedies which are indicated for rheumatism will also control the endocarditis; such as, *Bryonia*, *Rhus tox.*, *Actea*, *Propylamin*, *Mercurius*, etc.

CHAPTER III.

DISEASES OF THE HEART CONTINUED.

HYPERTROPHY—CAUSATION—TREATMENT. HYPERTROPHY WITH VALVULAR LESIONS—SOUNDS OF THE HEART—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

HYPERTROPHY OF THE HEART.

THE normal size of the heart is roughly stated to be the size of the owner's closed fist. The weight in the male averages nine and one-half ounces, in the female eight and one-half. The muscular walls may be thickened without any increase in the size of the cavities, constituting simple hypertrophy, or, as is more frequently the case, the walls are thickened, with increase in size of the cavities, which condition is called hypertrophy with dilatation.

Causation.—The cause of hypertrophy is some obstruction to the free passage of blood through the heart, or to the free play of the organ. The result of the increased work of the heart necessary to overcome the impediment is an increased supply of nutritive material to the organ, and a consequent increase of its muscular structure. Dilatation is a consequence of repeated and continued efforts to expel the contents of the cavities, and from over distension of them, causing dilatation of the cavities. The left ventricle is hypertrophied much oftener than the right. When the right ventricle is enlarged it is commonly due to obstruction from disease of the lungs. The obstruction which is the cause of hypertrophy may be in the capillaries or in the course of the arteries. The symptoms of simple hypertrophy are palpitation, dyspnoea, increased by exercise, some headache, fullness in the head, strong pulse. The physical signs are strong impulse against the chest, and increased area of sound.

Treatment.—The treatment consists in recommending abstinence from all violent effort, excitement and anything

which tends to increase the heart's action. *Aconite* and *Belladonna* are the remedies—the first to moderate the force of the circulation and to equalize it, the second to restrain the tendency to cerebral congestion.

HYPERTROPHY WITH VALVULAR LESIONS.

Sounds of the heart.—There are two sounds of the heart, called the systole and diastole. They succeed each other very quickly, and are followed by a period of rest. It is usual to divide the time of a pulsation into fifths, two-fifths representing the first sound or systole, one-fifth the second or diastole, and two-fifths the rest or interval. The systole is supposed to be produced by the contraction of the auriculo-ventricular valves, the friction of the particles of blood, and the impulse of the heart against the thoracic walls; the second sound by the contraction of the semilunar valves at the arterial openings. The first is best heard at the apex of the heart, the second at the second intercostal space at each edge of the sternum.

Most of the alterations in the internal lining membrane of the heart are the result of inflammation, which causes a deposit of coagulable lymph upon and beneath the serous membrane. The valves, in consequence, lose their thinness and transparency, become thickened and indurated, puckered up or adherent to each other or to the walls of the openings. Besides the effect of inflammation they may become inefficient from dilatation of the orifices they are intended to close, or they may become the seat of fatty or calcareous degeneration. The effects of inflammation are twofold, either to contract the orifice and thus cause obstruction to the passage of the blood, or from puckering and shortening the valves to impede the closing of the openings and thus permit regurgitation of the blood—the one being valvular obstruction, the other valvular insufficiency. These changes in the valves, which involve either obstruction or regurgitation, lead to enlargement of the heart. Flint says that mitral obstruction and regurgitation lead first to dilatation of the left auricle. This produces pulmonary obstruction, which in turn causes dilatation of the right ventricle, this leads to enlargement of the right auricle, and obstruction to the return of the venous blood produces dilatation of the left ventricle. This theory, if we examine it carefully, looks reasonable, but all writers do not agree to it.

Lesions of the aortic opening produce similar effects, with

a different series of dilatations. The left ventricle is first to be enlarged, the left auricle next, then successively the right ventricle and auricle.

Valvular disease, if it does not give rise to obstruction or regurgitation, affords no subjective symptoms, and its existence can only be determined by the physical signs, but when conjoined with enlargement and dilatation there are symptoms perceivable by the patient. The first symptom is obstructed respiration, chiefly felt after exertion, as climbing stairs or any active muscular exertion; while in repose no inconvenience is felt. But the difficulty of breathing finally becomes habitual, and is worse from dilatation of the right ventricle. Inability to assume the recumbent posture follows. There is also cough, attended with more or less mucous expectoration. Occasionally there is hemorrhage from the lungs. Pulmonary oedema and hydrothorax are liable to occur in the course of the disease. There is not much pain nor mental distress. The impulse of the heart is very strong, so much so that its action is often very plainly preceptible to the eye; the hand placed on the chest receives a strong impulse. The pulse, however, is weak in proportion to the amount of the obstruction. Palpitation is a prominent symptom, and is quite annoying to the patient. The stomach and liver, sooner or later, suffer from the cardiac disease, digestion is impaired, the appetite becomes poor, and, later in the disease, there is considerable emaciation from deficient nutrition.

In disease of the aortic opening there is more palpitation and stronger contractions of the heart from dilatation and hypertrophy of the left ventricle, but cough, expectoration, dyspnoea and spitting of blood are less marked.

Hypertrophy of the heart is not an evil any more than enlargement of any other muscle. On the contrary, it is a benign provision of nature to compensate for the obstruction in the circulation, of which it is the consequence. No special symptoms follow hypertrophy, but when dilatation occurs we have the train of symptoms which I have detailed.

The heart is weak in proportion as it becomes dilated, and the circulation becomes more feeble, and the danger to life is in direct ratio to the extent of the dilatation.

Causation.—In the majority of cases valvular disease is a sequence of endocarditis, and this in turn is most frequently a complication of articular rheumatism. Out of sixty-one cases of valvular disease analyzed by one writer, in forty-three rheumatism had existed prior to the heart disease. We will,

therefore see the necessity, when treating rheumatism, of watching carefully for symptoms of endocarditis. Other causes are fatty and calcareous degenerations, and syphilis of the heart. Some cases of valvular disease are congenital.

Diagnosis.—The subjective symptoms of valvular disease and functional disease of the heart are so similar that a diagnosis can only be positively determined by the physical signs. Percussion can tell but little, and auscultation must chiefly be relied upon.

Lesions situated at the different valves and openings of the heart are indicated by sounds called murmurs, in older works called bellows or blowing sounds of the heart. If the murmur is heard near the apex of the heart, and synchronous with the systolic beat, the sound is from the mitral valve. If it is heard only here it does not indicate regurgitation, but if the sound is heard to the left of the heart, and under the angle of the scapula at the back, it shows valvular insufficiency and regurgitation of blood. The murmur confined to the space over the heart indicates roughness of the walls of the heart, without valvular lesions. The mitral murmur is not heard above the heart, nor over the carotids. A murmur with the systolic sound of the heart, but heard with greatest intensity above the base, or over the carotid arteries, is due to lesions of the aortic valves, or to some morbid change in the blood, as anæmia. The presence of anæmia, and the variableness of the sound, being sometimes present and sometimes absent, and the other signs of cardiac disease, together with the previous history of the patient, will generally suffice to determine the character of the disease. Tricuspid murmurs are rare, and are with difficulty distinguished from mitral. Pulmonic murmurs are situated at or above the base of the heart, in the second intercostal space, near the margin of the sternum, on the left side. They are distinguished from the aortic murmur by not being heard over the carotids. The sounds considered by themselves alone do not determine the extent or importance of the lesions. The sounds may be loud, with slight changes, or feeble, with very grave lesions of the valves. Roughness or softness of sounds do not indicate the gravity of the case. At the aortic and pulmonic orifices a comparison of the second sounds may be made; the aortic on the right, the pulmonic on the left of the sternum, at the second intercostal space. If the aortic sound be diminished it does not indicate aortic lesion, but, on the contrary, pulmonic lesion. The degree of diminution of

aortic sound is indicative of the extent of obstruction or regurgitation at the mitral valve, while, if mitral obstruction has led to hypertrophy of the right ventricle the pulmonic sound will be intensified from the greater force of propulsion through the pulmonary arteries. A further indication of the extent of the valvular lesion is shown by the extent of enlargement of the heart. The greater the enlargement the greater the extent of valvular disease. This can be ascertained by the area of dullness on percussion, and the location of the apex beat, which is lower and farther to the left according to the extent of the enlargement. The force of the impulse against the walls of the chest enables us to tell whether the hypertrophy or dilatation is the predominant symptom. If the impulse is very strong, the hypertrophy predominates; if feeble, the dilatation predominates. Auscultation also shows that the first sound is loud and prolonged in hypertrophy alone; with much dilatation it is short and feeble.

So much for the theory of the normal and abnormal sounds of the heart. It will be found that it needs constant practice and nice attention to detail to justly discriminate between these various sounds, and it is doubtful if a general practice will afford sufficient opportunities to enable one to become expert. Nevertheless, it is better to lose no opportunity to practice both auscultation and percussion on all real and supposed cases of heart disease with a good stethoscope, and to use it as often as convenient. It rather pleases a patient to have frequent examinations made, for it indicates an interest in the case, while a failure to do so indicates to him a lack of interest. Many errors of diagnosis would be avoided by thorough acquaintance with physical signs.

Prognosis.—This largely depends upon the character of the lesions. If there is no obstruction nor regurgitation the valvular disease may cause no serious trouble for an indefinite period. The organic murmurs may be owing to other causes than regurgitation or narrowing of the orifices, and the physician must not be too hasty in attaching importance to them. These sounds are discovered in persons who seem to be in good health. I discovered the bellows sound lately in a boy of thirteen, who was singularly active and athletic, whose wind was the admiration of the other boys of the school. There can neither be hypertrophy nor dilatation in his case. Probably there is a roughness of the endocardium, though he has never had rheumatism. Hypertrophy, without dilata-

tion, causes inconvenience, but it is rarely dangerous to life. The chief danger lies in dilatation, with regurgitation or obstruction.

The symptoms denoting danger are constant and increasing dyspnœa, which is not asthmatic, and dropsy. Death may occur from emboli, pulmonary œdema or apoplexy, or cerebral hemorrhage, or the heart may simply cease its action from excessive weakness. In the last case death is preceded by much restlessness and distress in the cardiac region.

Treatment.—This is, to a great extent, preventive. The object is to guard against the progress of the disease, and to moderate the inordinate action of the muscles of the organ. All violent exercise should be avoided, but moderate exercise in the open air is beneficial. The diet should be nutritious but plain, and easily digestible. Violent mental emotions and excitement should be guarded against.

If dropsy occur in the course of the disease the remedies and means will be required which have been spoken of in the treatment of dropsy. Above all things do not unnecessarily alarm the patient by doleful predictions. Patients are not infrequently told by their physician that they may drop dead at any moment. It is not a very cheerful thought to constantly carry with one. Even if there is a probability of such a result it is not wise to impress it on the mind of the patient.

The remedies best adapted to valvular lesions, with hypertrophy and dilatation, are *Cactus* and *Digitalis* for the heart affection, and other remedies for the intercurrent affections; as, dropsy, bronchitis, derangements of the liver and stomach.

It is claimed by a Boston physician that he has permanently cured many cases of hypertrophy of the heart in children with *Bromine* of the 30th dilution.

The symptoms for the administration of *Cactus* are: feeling of constriction about the heart as though a hand had grasped it, irregularity of the heart's action, palpitation, worse after exercise, dull, heavy pains in the region of the heart. Secondary symptoms are bronchitis with much rattling of mucus, vertigo, dyspnœa, bleeding from the lungs, periodical attacks of suffocation. I think *Cactus* better adapted to hypertrophy before dilatation has taken place, and doubt its efficacy when there is much dilatation, with marked debility of the heart.

DIGITALIS is more particularly indicated when the dilatation exceeds the hypertrophy. Its principal symptoms are: slow, irregular, feeble pulse, heart's impulse feeble, accelerated

on motion, passive congestion of lungs and of the liver, tumultuous movements of the heart, diminished secretion of urine.

The prognosis is so doubtful of an ultimate cure that I do not give you the host of remedies mentioned. Indeed, I doubt their efficacy. The treatment must be palliative. The leading indications are to control the violence of the heart's action, to relieve the dyspnœa, to promote digestion and assimilation, to stimulate the liver and kidneys to the performance of their functions, and to prevent the accumulation of dropsical effusions.

While we cannot hope to cure the disease, yet we may do much to enhance the patient's comfort and to prolong life. It is surprising, sometimes, how long the disease may last before a fatal termination, when handled judiciously, with sedulous attention to diet, exercise, and avoidance of all undue mental excitement.

There are several points to which I wish to call special attention:—

1. Not to frighten a patient by too unfavorable a prognosis, for even if he is affected with lesions of the valves, with hypertrophy and dilatation, he may live for years under suitable hygienic and remedial treatment, while we may easily be deceived in the extent and gravity of the disease.

2. Never say to or of a patient that he may drop dead at any moment.

3. Some of the apparently most distressing symptoms may not arise from the cardiac lesions, but from some intercurrent affection; as, dyspepsia, anæmia, complaints from inordinate use of tobacco and coffee, or from venereal excesses. The functional disorders are independent of the organic trouble, though undoubtedly aggravated by them.

4. Valvular murmurs do not always represent serious organic disease, and may never be followed by any serious lesion. The disturbances in the heart's action in these cases may be considered as mostly functional, and the treatment should be directed to the general improvement of the patient's health. The causes may be malnutrition, debility, poor blood, dyspepsia, etc.

5. In undoubted valvular lesions, with hypertrophy and dilatation, much may be done by judicious treatment, generous diet, attention to clothing, and keeping the patient as free as possible from anxiety and mental worry.

CHAPTER IV.

FATTY DEGENERATION OF THE HEART, AND
THORACIC ANEURISM.

FATTY OVERGROWTH—CAUSATION—SYMPTOMS—DIAGNOSIS—PROGNOSIS—
TREATMENT. FATTY DEGENERATION—CAUSATION—ANATOMICAL CHAR-
ACTERS—SYMPTOMS—PATHOLOGY—DIAGNOSIS—PROGNOSIS—TREAT-
MENT. THORACIC ANEURISM—CAUSATION—SYMPTOMS—TREATMENT.

FATTY OVERGROWTH.

FATTY degeneration of the heart consists in the substitution of fat in the place of the muscular tissues. There are two varieties, or rather methods, the first an abnormal development of fat on and in the substance of the heart; the second molecular substitution of fat for the proper substance of the muscular fibres. The first is a growth, the second an indication of decreased vitality. The result is the same in both—a loss of muscular substance and a diminished vigor of the organ.

Causation.—The causes of fatty overgrowth are hereditary predisposition, sedentary habits, excessive consumption of rich food and alcoholic liquors.

The pathological anatomy shows the heart almost hidden under its covering of fat. On section, the fat appears in the substance of the heart, passing in between the muscular fibres. The muscular tissue is thinner than in the normal state, there sometimes being only a thin endocardial layer. Occasionally the fat appears only in minute specks, thickly scattered throughout the muscular substance.

Symptoms.—The symptoms are weakened impulse and sounds of the heart, weak, but generally regular pulse, dyspnoea and syncope.

Diagnosis.—The diagnosis is made from the symptoms of weakness of the heart's action, the absence of abnormal sounds, and the general excess of adipose tissue.

Prognosis—The prognosis is bad. Death occurs from rupture of the heart, from syncope, or from dyspnœa.

Treatment.—It is doubtful if any remedies possess the power to diminish the progressive deposition of fat or to restore the muscular vigor. Attention to diet, moderate exercise, and avoidance of all causes which excite the circulation, are precautions to be taken.

FATTY DEGENERATION.

By fatty degeneration of the heart we understand a change in its muscular fibres by which they are first obscured and subsequently disappear, being replaced by granules and globules of fat; distinguished by some writers as granular and fatty degeneration, and believed to constitute two distinct forms of degeneration. They are generally, however, regarded as different stages of one disease.

Causation.—*First*. Age. Although fatty degeneration may occur at any time of life, yet it is more frequent after the decline of life begins, having as its only cause the general tendency to degeneration natural to old age. *Second*. Imperfect nutrition, resulting from sedentary habits, repeated hemorrhages, deficient quality of the blood, are frequently followed by fatty degeneration. *Third*. Chronic alterations in the blood, as in gout, Bright's disease, purpura, scurvy, etc., may cause the disease. *Fourth*. Certain poisons, as *Phosphorus*, *Arsenious acid*, and *Alcohol*. In one case when five grains of *Phosphorus* were taken, the fifth day afterward the heart was found to be soft and friable, the fibres being filled with globules of fat. In chronic alcoholism degeneration frequently ensues. *Fifth*. Wasting diseases have as one of their consequences fatty degeneration of the heart. Those in which it is most frequently met are cancer, consumption and psoas abscess. *Sixth*. The disease is frequently associated with acute rheumatism, typhus and typhoid fevers, diphtheria and fatal cases of measles. It also follows obstruction of the coronary arteries, causing imperfect nutrition of the heart, carditis and hypertrophy of the heart.

Anatomical Characters.—The first change consists in the appearance of minute black granules within the substance of the fibres; as they increase they replace the transverse striæ, which finally disappear.

As degeneration progresses the granules increase in size and become translucent in the center, attaining the size of a blood corpuscle. The presence of the granules and globules

change to the naked eye the appearance of the diseased part. It becomes gray, ashy or grayish yellow. It has been compared to a faded leaf. The consistence is also changed. The heart becomes soft and flabby; the fibres become brittle and break easily. The tissue is friable and easily broken down under the finger. In a case which I saw of rupture of the heart from fatty degeneration the tissues were so friable that I easily passed my finger through them.

Fatty degeneration of other organs and of blood-vessels is frequently observed; also calcareous deposits in the heart and adjacent tissues.

Symptoms.—The physical signs show diminished impulse and apex beat. The sounds of the heart are also feebler than the normal standard; the pulse is generally irregular, and sometimes slower than the healthy beat, and is weak and small. Pain is not a common symptom, but is occasionally felt in sudden paroxysms, resembling somewhat the pain of angina pectoris. Dyspnoea is generally present, sometimes slight, and felt only after some muscular effort, as going up stairs or ascending a hill. In other cases it is severe and persistent, and worse on lying down. Syncope and vertigo are of frequent occurrence. Death sometimes occurs during an attack of syncope. Indigestion, want of appetite, deficient muscular power, paleness of the face, coldness of the extremities, indisposition to exercise, are symptoms common to the disease.

Pathology.—The first step in fatty degeneration is probably molecular changes in the muscular fibre by which the fat which is in it in an invisible form combined with proteine is separated and precipitated in visible granules and globules. As the degeneration increases the muscular tissue changes to fat by a chemical change, an imperfect oxydation of the nitrogenous constituent of the fibre, or, in other words, by the decomposition of the proteine material.

Diagnosis.—The diagnosis is difficult, and sometimes impossible. Most of the symptoms belonging to fatty degeneration are so common to other diseased conditions that they are not of much importance in diagnosis.

The presence of the arcus senilis in the eye is adduced as corroborative evidence, and is of some diagnostic value. This symptom, with the diminished heart impulse and weak pulse, indicate degeneration.

Prognosis.—The disease is always a serious one, and the termination doubtful. If the cause is removable the progress of the disease may be arrested, and the patient may even re-

cover if the heart has become but little affected. On the contrary, if the cause cannot be removed the degeneration steadily advances until death ensues.

The duration of the disease varies. If occurring as a consequence of acute disease it runs a more rapid course than when caused by premature or senile decay of the vital powers. In the old, degeneration may exist for ten or twelve years, especially if the patient leads a tranquil, unemotional life. Death may come from slow stoppage of the heart, during syncope, from rupture, or sudden stoppage from the presence of a clot in a large artery.

Treatment.--In acute degeneration from other diseases the removal of the cause is the chief indication. When the primary disease ceases to act there is a fair prospect of a restoration of the heart to its normal condition, if the disease has made no considerable progress. But if degeneration is far advanced, or if it is the result of senile decay, the condition is irremediable.

The aim of treatment is to arrest the progress of degeneration, and to keep up and improve the muscular power of the heart. The diet should be nutritious, consisting of food easily assimilated, and largely consisting of lean meat. Sugar, fat and farinaceous food should be sparingly used.

Exercise should be taken in moderation, but all severe or prolonged exertion must be avoided. Anything which hurries the circulation, or occasions increased action of the heart or lungs, is injurious.

Medicines should be given to improve the general health, to maintain good digestion, to control co-existing disorders, and maintain regular action of the heart.

The medicines which will afford most benefit are *China*, *Digitalis*, *Phosphorus*, *Apis*, *Nux vomica* and *Arsenicum*. Medical treatment is of far less importance than hygienic.

PHOSPHORUS is the only remedy which causes fatty degeneration when taken in large doses, and consequently is the only one indicated in the disease. I do not know of any cures recorded as following its administration.

ANEURISM OF THE THORACIC AORTA.

Aneurism consists in a preternatural dilatation of an artery, and may involve the whole circumference of the vessel, or one side of it. It is not possible, however, to accurately diagnose the variety.

Aneurism is caused either by increased pressure on the

walls of the artery, or by diminished power of resistance to the ordinary pressure of the blood. Increased pressure is caused by violent muscular exertion, often repeated, great mental excitement, and alcoholism. The arterial walls are unable to withstand the strain upon them, and yield. Aneurism from diminished resistance is due to senile decay, beginning in the great vessels before the tissue of the heart suffers in nutrition; hereditary predisposition, rheumatism, gout, syphilis, Bright's disease, are other causes.

Symptoms.—Aneurismal tumors of the aorta, according to their situation and size, give rise to certain symptoms by pressure upon the surrounding parts. Unless a correct diagnosis of the cause is made these symptoms are often misleading to the physician by directing his attention to complaints which do not exist.

As a rule the commencement of aneurism is unmarked by any definite symptoms, and it is not until the tumor attains a size sufficient to cause pressure upon adjacent organs that medical interference is sought. The first symptoms sometimes occur after a fall, a violent blow, or unusual muscular effort. The patient feels a momentary pain in the chest, with a feeling of faintness, followed, after a greater or less interval of time, by dyspnœa, deep seated pain in the chest, palpitation and a feeling of strong pulsation. In other cases the first sign of aneurism is agonizing pain in the left breast, faintness and violent palpitation, preceded by a feeling as if something had given way in the chest.

The general symptoms occurring from thoracic aneurism are: pain, dyspnœa, cough, palpitation, altered voice and breathing, feebleness of the pulse in right or left wrist, and occasionally disordered vision, headache and partial paralysis.

The pain is of an aching, burning character, referable to the situation of the aneurism, and associated with paroxysmal, lancinating pain shooting along the contiguous nerves. The dyspnœa is caused either by pressure upon the trachea, or upon the recurrent laryngeal nerve. Difficulty of deglutition is present in some cases, caused by pressure upon the œsophagus.

Paraplegia is the result of erosion of some of the vertebræ, and consequent pressure on the spinal cord. The physical signs vary much in distinctness, according to the position of the tumor. If there is erosion of the ribs, and approach of the tumor to the surface, a pulsating thrill is quite obvious.

Palpation shows two centers of pulsation, one at the apex of the heart, the other over the seat of the aneurism. Over the tumor percussion reveals a flat sound, fading away on each side to lung resonance. On placing the stethoscope over the tumor, pulsation is generally distinctly audible.

Aortic aneurism may exist at any age, but is most common between the ages of forty and fifty. In Dr. Crisp's tables one hundred and thirty-two out of one hundred and seventy-five cases occurred between the ages of thirty and sixty.

Males are much more liable to the disease than females; four-fifths of the cases occurring in males. The disproportion between the sexes is due to the different habits and modes of life.

Dr. Holmes remarks that "internal aneurisms seem equally, if not more, common among women when their way of life exposes them to the vascular excitement consequent on intemperance, vice and mental emotions."

Diagnosis.—The diagnosis is difficult at the beginning of the disease. Not until the aneurismal tumor has attained bulk sufficient to press upon adjacent organs, giving rise to the various symptoms enumerated, can a correct diagnosis be made.

Dr. Powell gives the following indications for and against the existence of aneurism:

"1. If the age of the patient be under twenty-five, in the absence of any history of direct injury, the chances are against aneurism.

"2. Great emaciation, in the absence of intense prostrating pain, is against aneurism.

"3. Great displacement of the heart, in the absence of marked signs of a large pulsating tumor, is against aneurism.

"4. Female sex of the patient is against aneurism.

"5. On the other hand, severe pain, constant, with occasional exacerbation, is in favor of aneurism.

"6. The more inconstant the distal signs of pressure, unequal pulse, irregular pupils, laryngeal and bronchial dyspnoea, dysphagia, the greater the probability of the disease being aneurismal.

"7. Dr. Walshe observes that 'the absence of symptoms and signs indicative of ordinary affections of the heart and lungs in an individual suffering from persistent anomalous disturbances within the chest, even though he does not, or, rather, because he does not, exhibit any failure of general health, affords strong motive for suspecting aneurism.'"

Prognosis.—The prognosis is highly unfavorable. With rare exceptions the disease is fatal. The duration of life varies from a few months to one or two years. Death occurs in the majority of cases from a rupture of the aneurismal sac, or, more rarely, from pressure upon the trachea, œsophagus or spinal cord.

Treatment.—The same general treatment is to be followed as is indicated in disease of the heart. All active exertion, strong emotions and excitement are to be avoided. Great regularity in the habits of life is to be sedulously observed. The diet should be nutritious, but unstimulating.

Remedies which control the circulation are to be given to moderate any arterial excitement. *Aconite*, *Veratrum viride* and *Digitalis* are the principal.

CHAPTER V.

ANGINA PECTORIS, EXOPHTHALMIC GOITRE
AND FUNCTIONAL DISORDER OF THE
HEART.

ANGINA PECTORIS—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—
TREATMENT. EXOPHTHALMIC GOITRE—CAUSATION—SYMPTOMS—DIAG-
NOSIS—PROGNOSIS—PATHOLOGICAL ANATOMY—TREATMENT. FUNC-
TIONAL DISORDER OF THE HEART—PROGNOSIS—TREATMENT.

ANGINA PECTORIS.

(*Synonym*, BREAST PANG.)

THIS singular disease has been briefly but expressively de-
scribed by an eminent physician as consisting essentially of
severe, almost unbearable pain in the chest, and a sense of
approaching dissolution. The subjects of angina pectoris
report that it is a suffering as sharp as anything that can be
conceived in the nature of pain, and that it includes, more-
over (which is beyond the nature of pain), a sense of dying.

Symptoms.—Pain located usually at the lower part of the
sternum, extending rather to the left; at times the pain ex-
tends both sides of the sternum to the shoulders and back.
In a certain number of cases there are pain and numbness in
the left arm following the pain in the chest. Pain on pres-
sure may or may not be present. In some cases relief follows
pressure or friction of the parts. Moving of the whole body,
as walking or riding, aggravates the pains, and is even impos-
sible in severe paroxysms. Absolute rest is essential to re-
lief. In addition to the pain there are present a distressing
feeling of impending death, a sense of constriction of the
chest, and a sensation of breathlessness or suffocation, which
is not dyspnoea or inability to inflate the lungs to their full
extent, but an indescribable feeling of impending asphyxia.
The face is pale, the features pinched, the expression anxious.

The pulse varies in different attacks: sometimes weak, slow, and almost imperceptible; at others but little affected either in volume or frequency. Consciousness is generally intact even up to the time of death. The nervous functions may maintain their integrity during the attack in some cases, in others the patient may suffer from giddiness, vertigo, derangements of the special senses, or spasms.

Trousseau argues that the disease is induced by epilepsy, and styles it epileptiform neuralgia, on account of the general disorder of sensibility and consciousness which sometimes attend it. It is extremely rare, however, to find epilepsy and angina pectoris coincident.

The paroxysms are generally short, varying from a few moments to half an hour in duration. They occur at irregular intervals, the intervals in confirmed cases growing shorter with the progress of the disease.

Causation.—Generally the disease is associated with organic disease of the heart; occasionally, however, lesions of that organ are wanting, and the angina is some obscure form of neuralgia. Gout is also a predisposing cause. Exciting causes are mental emotion and violent exercise. The most frequent organic lesions of the heart inducing angina pectoris are calcification of the aortic valve and coronary arteries, aneurism of the aorta, and fatty degeneration of the heart. In forty-five cases examined by Sir John Forbes organic disease of the heart was found in thirty-nine.

Diagnosis.—The diagnosis is not difficult. The disease is *sui generis*, resembling no other in its peculiar symptoms.

Prognosis.—The prognosis is unfavorable when the disease is complicated with organic lesions of the heart. In all cases the prognosis should be guarded. Death may occur in any paroxysm, yet life may be prolonged for many years.

Treatment.—The patient should avoid all causes of excitement and violent exercise, observe regular habits, avoid high living, and abstain from the use of coffee and tobacco.

The treatment is both palliative and remedial. The one to shorten and relieve the paroxysm, the other to prevent its recurrence.

The principal remedies are *Nitrate of Amyl*, *Cactus grandiflorus*, *Aconite*, *Arsenicum* and *Gelsemium*.

NITRATE OF AMYL is the remedy of greatest value during a paroxysm. From two to five drops should be placed on a handkerchief and inhaled. It produces flushing of the face, fullness of the head, quick, strong pulse, and general relaxa-

tion. If these symptoms are present during the paroxysms its use in the dilutions is indicated during the intervals between. Given as above it is a palliative remedy.

Should the paroxysms be unusually prolonged and severe, and not yield to the inhalation of *Nitrate of Amyl*, MORPHINE may be given hypodermically.

REMEDIES BETWEEN PAROXYSMS.

CACTUS.—Difficulty of breathing, constriction of chest, congestion of chest, palpitation, sensation of constriction of heart as if bound with an iron band, irregularity of heart's action. A medical friend told me that he cured his wife of angina pectoris of four years' standing with this remedy. There was no organic disease of the heart.

ACONITE.—Suffocative constriction of the chest, intense pain radiating from sternum, fear of death, coldness, pain in region of heart extending down the left arm, local numbness and tingling.

ARSENICUM.—Want of breath with great anguish, oppression of breathing, constriction of chest.

GELSEMINUM is indicated when the paroxysms are brought on by excitement, irregular beating of the heart, feeling as if the heart would cease beating, palpitation, weak pulse.

In addition to the treatment already mentioned measures looking to the general health of the patient should not be forgotten.

If organic disease of the heart is coincident with angina appropriate remedies should be given.

EXOPHTHALMIC GOITRE.

(*Synonyms*, BASEDOW'S DISEASE, GRAVES' DISEASE.)

Under the above names is described a peculiar disease combining three characteristic conditions; namely, protrusion of the eyeballs, enlargement of the thyroid gland, and functional disturbance of the heart, chiefly manifested in accelerated beat and palpitation.

Dr. Graves was the first to describe a case in which all three conditions were observed. "Palpitation was developed first, and produced a pulse never under 120, and often much higher. After about a year exophthalmos was noticed, and in a few months, the action of the heart continuing with increasing violence, a tumor of a horse-shoe shape appeared in

front of the throat and exactly in the situation of the thyroid gland."

Causation.—It does not appear that the disease is more prevalent where goitre is endemic than elsewhere. It is more common between the ages of twenty and thirty. It attacks women much oftener than men, but it is asserted that the affection is more dangerous in men. Anæmia in a majority of cases is associated with it, and patients affected are subject to hemorrhages. The more frequent causes are violent emotions, as of fear, anger and grief.

Trousseau relates the case of a lady who on suddenly learning that her husband was unfaithful to her was seized at once with violent palpitation of the heart, her eyes soon became very prominent (they had previously been sunken), with a fierce glare, and an unusual prominence appeared in her throat.

The disease, according to Trousseau, appears to be due to neurosis of the sympathetic nerve, and it is probable that highly excitable, hysterical temperaments and constitutions debilitated by loss of blood, long continued diarrhœas, or excessive mental work, predispose to an attack.

Symptoms.—The first symptom observed is palpitation of the heart, at first slight, but rapidly increasing and occurring in paroxysms brought on by any mental excitement. Frequently the beating of the heart can be perceived at some distance. The frequency of the beats are also increased in a marked degree, often reaching from 120 to 150 per minute. Irregularity of the heart's action is sometimes present. The thyroid gland is more or less enlarged. It does not attain the immense size sometimes seen in goitre, nor does it continue growing for an indefinite period; generally one lobe (usually the right) is more affected than the other. The thyroid arteries are enlarged, and a strong pulsation is felt over these and the carotids, frequently accompanied by a thrill. The swelling of the gland is not painful, but sometimes impedes respiration from pressure on the trachea, and alteration of the voice results from interference with the recurrent laryngeal nerve. Coincident with the enlargement of the thyroid, or soon after, the eyeballs appear to be increased in size, and protrude from the orbit, giving the countenance a wild and fierce look. The protrusion is so great in some cases that the patient is unable to close the lids, and sleeps with them partly open. Vision is usually not impaired. The general symptoms are nervous irritability, marked changes

of temper, frequent blushing of the face, mental depression, inability to sleep, morbid increase of appetite, and irregularity of menstruation or amenorrhœa.

Diagnosis.—The disease at first may be mistaken for functional disease of the heart, but the three prominent symptoms; namely, palpitation, goitre and exophthalmos render the diagnosis tolerably certain.

Prognosis.—As regards a cure the prognosis is doubtful. The disease is essentially a chronic one, and is liable to continue for months and years. The patient may continue in a fair state of health for many years, and die of some intercurrent affection. It is only in the worst cases that a fatal result may be apprehended.

Pathological Anatomy.—In some cases valvular lesions and enlargement of the heart have been found. Frequently, however, no change is observed. The thyroid gland is more or less increased in size, with enlargement of the veins. Some theories have been advanced as to the cause of the protrusion of the eyeballs—hyperplasia of the connective and fatty tissue of the orbit, relaxation of the recti muscles, hydro-ophthalmos, extravasations. None of them seem to have been fully sustained, for the reason that after death the eye usually returns to its socket, and during life moderate pressure replaces it.

Treatment.—As the disease occurs most frequently in persons of weak constitutions, or suffering from nervous exhaustion or frequent hemorrhages, the treatment should be directed to the improvement of the general health by appropriate remedies, nutritious diet, and change of air or climate if deemed necessary.

The medicines indicated are *Belladonna*, *Cactus*, *Digitalis*, *Ferrum*, *Gelseminum*, *Ignatia*, *Lilium tig.*, *Platina*, *Glonoin*, *Spongia*.

BELLADONNA.—Mental excitement, palpitation, accelerated pulse, throbbing in the carotids, eyeballs prominent.

CACTUS.—Long standing palpitation, irregularity of heart's action.

DIGITALIS is the leading remedy of the dominant school for the excessive action of the heart, *Ferrum* for the anæmia so often accompanying the disease.

FERRUM.—Depression of spirits, excitable, pettish temper, restlessness, palpitation, throbbing in carotids, anæmia.

GELSEMINUM.—Irritable, sensitive, excessive irritability of mind and body, excessive action of the heart.

IGNATIA.—Ailments from grief, mortification or bad news, palpitation, pulse frequent, with throbbing in blood-vessels.

LILIUM TIGRINUM.—Irritable, impatient temper, sleeplessness, with palpitation, voracious appetite, conscious pulsations over whole body, with palpitation.

SPONGIA.—Eyes *protruding* and *staring*, insatiable appetite, violent palpitation, frequent pulse, *enlargement of thyroid gland*, sleeplessness.

ICE is recommended as a local application to the heart if the palpitation is very severe.

If the goitre should not decrease under general treatment compression and the application of IODINE may be tried.

With regard to the exophthalmos, the patient should be directed to wash the eyes frequently with tepid milk to prevent irritation of the ocular conjunctiva.

Grafe recommends pressure applied directly to the eyeballs in case the patient is still able to close the eyelids.

The continuous electric current has been recommended for the disease by several authors.

FUNCTIONAL DISORDER OF THE HEART.

By functional disorder is meant disturbed action of the heart not dependent upon structural change or inflammatory action. The beating of the heart is abnormally violent, and is felt and even heard by the patient. In some cases the violent action is subjective, being only felt by the patient, the heart's impulse not being materially increased. This condition is commonly known as palpitation. In addition there is frequently accelerated, irregular or intermittent pulsations. The patient is painfully conscious of tumultuous motion, or a feeling as of an impending fatal suspension of the heart's action. The pulse may be either full and large or small and feeble. Other symptoms are vertigo, ringing in the ears, roaring noises in the head, flickering before the eyes, choking sensation in the throat, mental anxiety and distress, fear of impending death. The attacks usually occur in paroxysms during the night.

Causation.—The causes are various: plethora, conjoined with luxurious and sedentary habits, anæmia, indigestion, use of tobacco and strong coffee, long continued mental anxiety and depression, intense and long continued mental excitement, climacteric period, irritation of worms.

Diagnosis.—Functional disorder is to be discriminated from organic disease. The patient is apt to fancy that there

are serious organic lesions and suffers much needless anxiety in consequence. It is, therefore, highly desirable that the mind be set at rest by a positive diagnosis. If the physician is in doubt so will be the patient, or, rather, apprehension will lead to the most unfavorable conclusion.

The occurrence of the affection in paroxysms, the action of the heart being regular at other times, the paroxysms often occurring at night, without any exciting cause, the absence of dyspnœa after exercise, the mental anxiety, together with the absence of signs of structural lesion, shown by careful physical examination, make the diagnosis tolerably positive.

Prognosis.—The prognosis is favorable.

Treatment.—The treatment must first be directed to the cure of the affections which are predisposing causes; as, plethora, anæmia, indigestion, etc.

The principal remedies are: *Aconite, Badiaga, Belladonna, Cactus, China, Cicuta virosa, Cocculus, Coffea, Ferrum, Moschus, Nux vomica, Nux moschata, Ignatia, Pulsatilla, Sepia, Lycopus virginiana, Calabar bean, Argentum nit., Phosphoric acid, Scutellaria, Sumbul, Tarantula.*

ACONITE.—Oppression about the heart, violent action of the heart, palpitation, with anxiety and fear of death.

BADIAGA.—Nervous palpitation, with weak pulse, palpitation from mental emotion, sensation of fluttering and trembling in cardiac region, sensation of strong pulsation from head to chest at night.

BELLADONNA.—Palpitation, with feeling of anxiety, feeling of congestion to the head, sensation of gurgling around the heart, throbbing of carotid and temporal arteries.

CACTUS.—Sensation of constriction of the heart as of a band around it, palpitation on walking and at night, nervous palpitations, with a feeling of fright.

CICUTA VIROSA.—Palpitation, with sensation as if the heart stopped beating, with feeling of faintness.

CHINA.—Palpitation *after great loss of blood*, or from weakness.

COCCULUS.—*Tremulous* palpitation from quick motion or mental excitement, vertigo and faintness.

FERRUM.—*Palpitation* and *irregular* action of the heart from *anæmia*, hard, strong beating of the heart, with throbbing in the arteries.

GELSEMI NUM.—Feeling as if the heart would stop beating, intermittent pulse, excessive action of the heart.

MOSCHUS.—Palpitation in hysterical subjects.

NUX VOMICA.—Short paroxysms of palpitation from mental over work, indigestion, *excessive use of coffee*, tired sensation of the heart on lying down.

NUX MOSCHATA.—Violent action of the heart, with feeling of fullness in the head, palpitation in hysterical women, irregularity of heart's action, intermittent beat exciting fear of death, anæmic murmur in carotids.

PULSATILLA.—Palpitation in young girls from *delayed menstruation*, from *amenorrhæa*, violent paroxysms of palpitation, with mental distress.

LYCOPUS VIRG.—Constricting pain and tenderness about the heart, tumultuous beating of the heart, cardiac oppression, palpitation from nervous irritation, feeble pulse.

PHYSOSTIGMA.—Sensation of spasmodic twitching and trembling of the heart, pulsations through the whole body (subjective), retarded action of the heart, with diminished impulse, heart's action irregular and feeble.

PHOSPHORIC ACID.—Palpitation in *fast growing children*, from *masturbation*, from *depressing emotions*, pulse irregular and weak.

SCUTELLARIA.—Sensation of throbbing about the heart, flushed face, palpitation, tremors, and strange sensations about the heart, palpitation from *ovarian* and *uterine derangements*.

SEPIA.—Functional disorder at the *climacteric period*, occasional hard thumps at the heart, with anxiety, palpitation from mental emotion, intermittent beat after overloading the stomach, *quivering feeling* about the heart.

SUMBEL.—Heart's impulse strong and jerking after exertion, *irregular action*, *now rapid now slow*, irregular palpitations.

TARANTULA.—Trembling and thumping of the heart as from fright, præcordial distress, sensation as if the heart were *turned* and *twisted* round, violent throbbing of heart and arteries, *alternate acceleration and retardation* of movements of the heart.

SECTION FOURTH.

DISEASES OF THE NERVOUS SYSTEM.

CHAPTER I.

FUNCTION OF THE NERVES, CONGESTION OF THE BRAIN, APOPLEXY.

FUNCTIONS OF THE NERVES. CONGESTION OF THE BRAIN—ACTIVE AND PASSIVE—SYMPTOMS—TREATMENT. APOPLEXY—MORBID ANATOMY—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. PROPHYLAXIS.

THE nervous system is composed of two systems, the cerebro-spinal, embracing the brain, spinal cord and nerves proceeding from them, constituting the nervous system of animal life, and the sympathetic, consisting of a series of ganglia united by nervous filaments, and communicating with the other nerves, constituting the nervous system of organic life. The brain is supposed to be the seat of sensation, emotion, volition and intelligence; the spinal cord, the medium of communicating motion and sensation, and the sympathetic, the channel through which the heart, lungs, stomach and liver perform their functions. In the sympathetic also resides the power of co-ordination through which unity and harmony of action of the different organs and structures of the body are maintained. The brain ganglia and nerves demand and receive nutriment from the blood, and their healthy activity depends upon a due supply of it. They are subject, also, like other structures, to an excess or decrease of supply, and may suffer from hyperæmia or anæmia. Since the invention of the ophthalmoscope we have better means of determining the

condition of the brain; the nervous structure of the eye affording the means of diagnosing with considerable accuracy various lesions of the great central ganglion.

According to a French author most of the diseases of the brain and spinal cord are accompanied by optic neuritis, retinitis, inflammation of the choroid or atrophy of the optic nerve. The optic nerve is so intimately connected with the brain that inflammation and other affections of that organ are readily communicated to it. Unless great care is used in post-mortem examinations of the brain, lesions of the organ may be overlooked. In a post-mortem I lately attended, where the subject had died of some disease of the brain or chord, we were at a loss to detect any lesion other than hyperæmia, although we were quite confident that death ensued from softening.

In ordinary practice where opportunity is seldom offered for examinations of diseased brains, it is frequently impossible to ascertain the nature of the morbid alterations of structure. It is held to be rational to suppose that even in all cases of insanity where the naked eye can detect no change, that there are lesions of structure that better modes of examination may reveal.

CONGESTION OF THE BRAIN.

This may be active or passive. Active congestion is an undue degree of determination of blood to the head. The vessels carrying the supply to the head furnish more than the veins can return, hence an accumulation and an over-distension of the blood-vessels of the brain.

Causation.—The causes are strong mental emotion, too violent exercise, overloading the stomach, with violent exercise thereafter, sun-stroke, great excitement, alcoholic stimulation.

Symptoms.—The symptoms of active congestion are pain in the head, feeling as if the head would burst. The pain is general, the patient describing it as all over the head. There is a sense of heat, fullness and throbbing in the brain. The countenance is flushed, the eyes injected and suffused, with some intolerance of light, and flashes of light before the eyes; confusion of ideas, vertigo, and ringing in the ears; momentary fits of unconsciousness, fullness and throbbing of the carotid arteries; usually there is sleeplessness, or restless, unrefreshing sleep. The ophthalmoscope shows fullness and

enlargement of the vessels of the retina with congestion of the optic disk.

Prognosis.—In active congestion the prognosis is generally favorable. In many cases the congestion subsides spontaneously with the removal of the exciting cause.

Diagnosis.—The diagnosis is between meningeal inflammation and congestion. It is not always to be determined at first.

Treatment.—The remedies are *Aconite*, *Belladonna*, *Hyoscyamus* and *Gelsemium*.

ACONITE has been called the lancet of the homeopaths, and it is fast becoming the lancet of all schools, for nearly every physician now uses it in active congestion. In the majority of cases no other remedy will be required. *Aconite* is indicated with the following group of symptoms: Heat and redness of the face, pressure in forehead, temples, and top of the head, sensitiveness to noise, with feeling of fullness in the ears, eyes suffused, throbbing and fullness in the carotids, full, strong pulse, restlessness.

BELLADONNA is indicated if there is delirium, dilated pupils, intense pain in back of the eye, eyes seem starting from their sockets, acuteness of all the senses, intolerance of light.

HYOSCYAMUS, if the patient becomes delirious, with red sparkling eyes, face flushed, heaviness, vacant feeling, confusion of ideas, pressure in left side of forehead, heat and tingling in the head, violent pulsation like waves.

Passive Congestion.—Passive congestion of the brain arises from some impediment to the return of the venous blood. There is no undue determination of blood to the brain, but simply an accumulation of venous blood. The effect is the same: too much blood in the brain and a consequent over-distension of the vessels.

Causation.—The causes of passive congestion are: pressure upon the jugular vein from tumors; effusions into the pleural sac; disease of the right side of the heart; obstruction or obliteration of the sinuses of the brain, and diminished arterial force. This last is a frequent cause of passive congestion, with convulsions, in children, especially in diseases producing exhaustion, as cholera infantum, whooping-cough, etc.

Symptoms.—The principal symptoms are drowsiness, dullness of apprehension, blunted perceptions, rumbling noises in the head, tinnitus aurium, giddiness, feeling of fullness in the head, heaviness and feeling of weariness in the

limbs, numbness and pricking sensations. There is also diminished power of motion, together with sluggishness of action. On stooping, sneezing or coughing, the veins of the forehead are too full. The pulse is slower than normal, or quick and feeble.

Prognosis.—The prognosis depends upon the age, physical condition and coincident affections. A single attack is seldom fatal, but if they recur more and more frequently in a patient advanced in years and affected with organic disease or degeneration of vital organs, the ultimate prognosis is unfavorable. In forming an opinion of the gravity of the case, the heart, lungs, kidneys, and blood-vessels should be carefully examined.

Morbid Anatomy.—The morbid appearances after death show fullness of the vessels of the pia mater, flattening of the convolutions in consequence of the turgescence of the brain and red points scattered through the cerebral substance. When there have been repeated attacks of congestion a quantity of blood pigment is found surrounding the vessels. The duration of past congestion can be pretty well estimated by the quantity of this pigment.

Treatment.—The treatment is to be directed toward the improvement of the general health, and to the cause of the congestion rather than to the immediate symptoms. As preventive measures, quiet of mind, avoidance of all causes of mental excitement and worry, also of fatigue, sudden changes of position, straining, etc., should be enjoined.

The remedies indicated are *Glonoine*, *Nux vomica*, *Opium*, *Veratrum viride*, *Pulsatilla*.

A careful study of each case will be necessary in order to ascertain the proper remedy.

The previous habits of the patient, the general condition of the system, the state of the pulse and heart, the age and sex, will to a great extent determine the treatment to be pursued in each individual case.

APOPLEXY.

This disease is a sudden loss of consciousness and voluntary motion. In most cases of apoplexy the pathological condition is hemorrhage within the cranium. The hemorrhage may be in different parts of the cranium. It may be in the substance of the brain or between the enveloping membranes. The amount of blood effused may be small or large, the severity of the attack being proportioned to the

amount extravasated. The hemorrhage occurs oftenest in the cerebrum, seldom in the cerebellum. It may occur in either the right or left hemisphere, and occasionally in both. An examination of the brain after death from apoplexy generally reveals a clot imbedded in the brain substance; if the death is sudden the surrounding brain tissue is unaffected, except being tinged a pinkish color from absorption of serum. If life is prolonged some days the brain substance around the clot is softened, and gives signs of inflammatory action caused by the presence and pressure of the clot. Should the extravasation not be great enough to cause death it may gradually be absorbed and recovery take place. If the brain substance is lacerated by the effusion, even though the clot be absorbed, greater or less permanent injury is done to the brain.

Other causes than the extravasation of blood, causing apoplexy, are sudden and violent congestion, effusion of serum into the ventricles, anæmia, and the sudden plugging of one of the vessels of the brain by an embolus.

Symptoms.—The name implies to strike with violence, and in the majority of cases the blow comes suddenly and without premonition, although in some cases there is sense of weight and fullness, tinnitus aurium, vertigo, intense headache, and flushing of the face, preceding the attack. Some of these symptoms are common also to other morbid conditions. Of sixty-three cases, in all but nine there were no premonitory symptoms. Indeed it is not uncommon for a person to feel better than usual just before the fatal stroke.

The immediate symptoms of an attack are loss of consciousness and voluntary motion, stertorous breathing, with a puffing out of the lips and cheeks during respiration. The patient, when walking or standing, may fall as from a heavy blow. At other times unconsciousness may come on gradually, being preceded by uncertainty of speech, paralysis and sopor. In some cases the coma is not so profound as to suspend all acts of voluntary motion; one side may be moved to some extent. The respirations are slow and somewhat irregular, the pulse is hard, full and slow, the face is flushed, and often of a dark red, the thermometer indicates a lower temperature than normal, the pupils may be either dilated or contracted. Vomiting often precedes the attack. Nausea, from no other assignable cause, is by some considered as foreboding an attack of apoplexy, especially when occurring in persons past the age of forty-five. These symptoms may

continue for only a short time and then consciousness return, or for some days, with gradual recovery. But if the coma continues for any length of time without change for the better, or if it increases, the attack will generally prove fatal. Sometimes the attack proves fatal in a few minutes, at other times in a few hours or days, death being from apnœa. The cause of death in all cases of apoplexy is supposed to be due to a cutting off of the supply of blood to the brain from pressure of the effused blood upon the cerebral vessels.

Causation.—Age has a good deal to do with the liability to the disease. The period of greatest liability is between the ages of forty-five and sixty-five. Under thirty the disease is of rare occurrence. Calcareous and fatty degeneration of the coats of the arteries are predisposing causes. The degenerative process renders the vessels less able to resist pressure, and they give way in consequence. This condition of the arteries is peculiar to advanced life. Mental excitement, a violent fit of anger, violent muscular exercise, straining at stool, are all exciting causes when the arteries of the brain are weak. But often the attack occurs when there are no exciting causes. Of 176 cases, in 97 the attack occurred during sleep. It is common to speak of a certain build of the body as rendering a person liable to apoplexy, but it is doubtful if there is any greater liability on account of temperament or fullness of habit. When once cerebral hemorrhage has occurred there is a liability to subsequent attacks. Probably the same causes which were operative to produce the first attack remain in force.

Diagnosis.—Mistakes in diagnosis are by no means infrequent. Syncope, epileptic paroxysms and puerperal apoplexy have been mistaken for apoplectic seizures. Trousseau mentions several mistakes of this kind. Hysterical coma, profound drunkenness and narcotism, may also be mistaken for apoplexy. The previous history of the patient, the characteristic phenomena preceding the coma, and the absence of stertor, serve to exclude hysteria. Epilepsy is diagnosed by the clonic spasms, difficult and noisy respirations, bitten tongue and foam on lips, occurring prior to the comatose condition. Profound intoxication very nearly resembles apoplexy. The diagnostic points are the odor of the breath, absence of stertorous respiration, soft, frequent pulse, dilated pupils. In coma from narcotic poisons there is no stertor, the pupils are very much contracted, and the patient can usually be momentarily aroused. A good deal of discussion has

been held relative to our ability to locate the seat of the extravasation causing apoplexy. It is not claimed, as I am aware, that a knowledge of the exact location of the clot would modify either the prognosis or the treatment.

Prognosis.—The prognosis is generally unfavorable. Even if the patient rallies from one attack, and is able to resume his usual pursuits, sooner or later another follows from the causes I mentioned before. The more profound the coma, the more dangerous the case. If the patient rally from the state of insensibility paralysis may remain in consequence of the injury to the brain structure.

Treatment.—Formerly, blood-letting was the remedy in all forms of apoplexy, serous, anæmic, hyperæmic, as well as from extravasation of blood. Now it is only practiced when the disease is caused by active congestion.

The local measures to be employed are raising the head and applying to it cooling applications, as water, ice, or evaporating lotions.

The remedies are few which promise any benefit, especially in cerebral hemorrhage. The main thing is to arrest the redundant circulation so as to prevent further hemorrhage and to promote the absorption of what has already been poured out. In case of the plugging of an artery by an embolus I do not know of any remedy which will be of benefit. In serous apoplexy the obvious course is to give those medicines which promote serous absorption.

The remedies are *Aconite*, *Belladonna*, *Veratrum viride*, *Opium*, *Hellebore*.

The first two are especially indicated in apoplexy from violent congestion.

ACONITE when the pulse is full, carotids pulsating strongly, head hot.

BELLADONNA, pupils dilated, conjunctiva red and injected, restlessness, muttering and futile efforts to speak.

OPIMUM, pupils contracted, stertorous breathing, face dark, flapping of the lips, pulse very slow and labored, breathing slow.

HELLEBORE has no special symptoms, but is indicated if we suspect serous effusion in the ventricles as the cause of the attack.

Bæhr contends that **LAUROCEROSUS** corresponds most perfectly to an apoplectic seizure. I find in Allen the following symptoms (first premising that Bæhr says that in cases of poisoning from this drug there is always a copious extravasa-

tion of blood into the brain): Confusion and vertigo, feeling of congestion in the head. These are all the symptoms resembling apoplexy I find in Allen, and therefore think Bæhr attaches too much importance to the remedy.

As in the majority of cases apoplexy strikes the victim without any premonitory symptoms, it is evident that prophylactic treatment is not available. But sometimes there are warnings, and in case of recovery from one attack, a second may be delayed by appropriate precautions.

A distinguished English physician narrates that while walking along he felt a sensation as though some one had dealt him a violent blow on the back of his head. He had experienced a sense of fullness in the head for some time previously. Rightly deeming this a premonition of an attack of apoplexy he radically changed his habits of life, especially in eating and drinking; kept regular hours, lived an out-door life as much as possible, and by observing these precautions had no further trouble.

The best means to avert the disease are temperate habits in eating and drinking, avoidance of all mental excitement and fits of passion (particularly if there is heart-disease), and all violent exercise or sudden exertions of strength. If the attack is threatened on account of anæmia the diet needs to be nourishing and strengthening, and abundance of out-door life and exercise should be encouraged.

In insensibility from sun-stroke (which is one form of apoplexy) the treatment is to remove the patient to a cool, airy room, and apply cold applications to the head, the degree of cold to be proportioned to the axillary temperature; the higher the temperature the greater the degree of cold to be applied.

If there is great weakness and feebleness of the pulse CHINA should be administered.

If nausea is persistent IPECAC may be given.

CHAPTER II.

PARALYSIS.

PARALYSIS--DEFINITION--VARIETIES. GENERAL PARALYSIS. HEMIPLEGIA--DIAGNOSIS--PROGNOSIS--TREATMENT. PARAPLEGIA--CAUSES--DIAGNOSIS--PROGNOSIS--TREATMENT.

MODERN nosologists do not class this as a disease, but only as a symptom of some spinal, cerebral or nerve lesion of which paralysis is the ultimate result. As in dropsy we must look for the cause elsewhere than in the seat of the local manifestations, these only serving by the variety of their symptoms to guide us in a measure to the real nature of the lesion. In general terms we may define paralysis to be a loss to a greater or less extent of motion and sensibility, one or both, and affecting a greater or less portion of the body. Thus we may have loss of sensibility without the power of motion being impaired to any great extent, as when the posterior portion of the spinal cord is affected. There may be loss of motion only, as when the antero lateral portion of the cord is affected. Again, individual nerves may be affected causing local paralysis or loss of power in different parts of the body; as paralysis of the third nerve producing a dropping of the upper lid of the eye, or ptosis; paralysis of the sixth nerve causing double vision; of the optic nerve, one or both; facial paralysis from lesion of the motor branch of the seventh nerve, causing loss of motion on one side of the face. Again we may have paralysis of one half of the body of both motion and sensation, or either, or loss of sensation on one side and impaired motility on the other. Paralysis on either side is called hemiplegia while that of the lower half of the body is styled paraplegia. Again, paralysis varies in degree of intensity, from slightly impaired sensibility or motility to complete loss of sensation and motion. Often slight loss of sensation and motion is the first warning of an approaching attack of grave import, and the patient is soon stricken down. In other cases these slight symptoms

may exist for years, coming and going at irregular intervals, the patient finally dying of some other disease. One of my patients has for many years suffered from fornication and diminished sensibility of his feet. He is still, at the age of eighty-seven, in comparatively good health. The warning should be heeded, however, for prompt attention to the first symptoms may relieve the patient.

It will be impossible for me in the limited space of this work to give more than a cursory review of the various forms of paralysis, their causes, diagnosis, prognosis and treatment. I have already spoken of apoplexy, which is only another name for paralysis and which may either precede or follow it, apoplexy being a sudden and intense shock to the nervous organism producing usually entire loss of both sensation and motion, leaving intact only the functions of organic life.

General paralysis occasionally occurs but it is evident that death must speedily and certainly occur. Perhaps some of the sudden deaths of which we hear, and which we occasionally see, may be due to this cause. I need say nothing further concerning it as it is beyond the reach of medical skill.

HEMIPLEGIA.

This, as I have said, is paralysis of one side of the body. Generally there is loss of both motion and sensation, though occasionally of one only; more frequently loss of motion than of sensation. When hemiplegia comes on suddenly it is generally associated with apoplexy. The apoplexy masks the paralysis and it is after the patient's partial recovery that we observe the hemiplegia. But it may come on gradually, and be preceded by various symptoms as formication, numbness, headache, loss of motility; one arm or leg not being moved with the same facility as the other. The grasp of the affected side is not as strong, the foot drags; sometimes the patient drops whatever he is holding, and there is vertigo and confusion of ideas. Suddenly the patient is stricken down or is seized during sleep. The mind is generally seriously affected at first. There is inability to articulate, confusion of ideas, loss of memory in addition to the loss of sensation and motion. Usually the nerves of special sense are not implicated; the seventh, sixth and third nerves are not affected, so that the face is only slightly distorted. The motor branch of the inferior maxillary which supplies the angles of the mouth be-

ing implicated, the muscle on the other side draws the mouth awry. The buccinator muscle is also frequently paralyzed rendering the patient unable to control the mastication of his food. Usually when the patient protrudes the tongue it is deflected to one side from paralysis of the hypoglossal. Although there is a complete loss of voluntary motion, yet if the foot is irritated by being tickled, motion takes place, the limb being drawn away from the source of irritation. These motions are purely reflex and the patient is unconscious of them save by the sense of sight.

Diagnosis.—This is simple as regards complete paralysis of one side, but in the case of infants or where it is slight in adults it often escapes detection. Occasionally it is feigned by malingerers. One test is to make the patient stoop. In true hemiplegia the arm falls forward, while in simulated, the arm is kept by the side. To test partial paralysis of motion the patient should grasp the hand of the physician or lift some weight; of sensation by comparing the sensibility to touch and pain of corresponding points of the extremities.

But the diagnosis is rather to be directed to the cause than to the fact. Is the lesion situated wholly in the brain, or in the spinal cord as well? In what part of the brain is it, and what is the nature of the lesion? Upon our solution of these questions depends in a measure our prognosis of the case. Hammond in his work on nervous diseases does not speak of paralysis as a disease but only as a symptom, and affirms cerebral hemorrhage to be the most frequent cause of hemiplegia. The seat of the lesion, as I before mentioned, is most often found in the region of the optic thalami and above the decussation of the fibres of the cord as they enter the brain. When the paralysis is due to disease of the spine the face is unaffected but the muscles of the abdomen and chest are affected so that respiration is impeded. Another point of difference is that in spinal paralysis the susceptibility of the muscles to electrical influence is impaired. Other causes of hemiplegia are an embolus in one of the arteries of the brain; tumors and abscesses in the cerebral mass; inflammatory exudation and softening; non-inflammatory softening and syphilitic growths within the cranium.

Sometimes the paralysis is not due to lesions in the brain or cord, but are transient in their character. Paralysis of hysterical patients is of this nature and usually passes off with the hysterical paroxysm. It may follow an epileptic attack or chorea. It may be a consequence of reflex irritation,

from dyspepsia, or from impaction of feces in the colon, and it not infrequently occurs after a severe attack of diphtheria.

Some of the consequences of continued hemiplegia are; first, impairment of the mental faculties. The patient loses self-control, gives way easily to his emotions, becomes fretful and irritable, is easily excited to tears, becomes vacillating and uncertain; second, the muscles of the palsied side shrivel and become flaccid. Occasionally they become contracted, especially those of the forearm. The paralyzed side is colder than the other. In some cases the extremities become œdematous.

Prognosis.—The prognosis of hemiplegia from cerebral or spinal lesion is generally unfavorable. From functional disturbance as in epilepsy, chorea, pregnancy, diphtheria, etc., it is favorable. When resulting from thrombosis or embolus, it is more or less favorable according to circumstances.

If an attack is not speedily fatal the chances are for greater or less improvement. The leg first regains the power of motion; the arm last. Another sign of improvement is the increase of susceptibility to the galvanic current. The earlier in life the attack comes on, the more favorable is the prognosis as regards prolongation of life. Even late in life patients may remain paralyzed for years, or they may regain in a great measure the use of their limbs, to be again stricken down in the course of time. Perfect recovery of mind and body is very rare.

Treatment.—As paralysis, as stated in the beginning of this article, is not a disease *per se*, but only a symptom of functional or organic disease elsewhere, so the treatment is to be directed to the cause. When called to a case it is advisable to carefully examine into the history of the patient, weigh carefully all the facts that may be learned, and judge from them the nature and seat of the lesion. Is there, or has there been, syphilis or epilepsy or hysteria? Are the bowels in order. Does pregnancy exist? Has the attack come on suddenly or slowly? All these things must be considered carefully as they will materially modify the prognosis. When the attack comes on suddenly in an old or middle-aged person it is probably due to cerebral hemorrhage: when slowly, it may result from syphilis, tumor, softening or abscess. Whatever may be the cause, the treatment is to be directed to the removal of it. If from syphilis the treatment must be anti-syphilitic. If from extravasation or effusion into the brain,

we should endeavor to produce absorption of the effused clot, lymph or serum. If the hemiplegia is the result of intracranial tumor, abscess or extensive softening nothing can be done to relieve the patient.

I shall speak of the treatment of the various diseases which may be followed by hemiplegia when we come to them. Usually the paralysis following them is limited in its duration and soon passes away or yields readily to treatment.

The principal point in the diagnosis of cerebral lesions is to distinguish between cerebral hemorrhage and white softening, the latter being generally due to an insufficient supply of blood to the brain. In the first case, namely cerebral hemorrhage, on flexing the arm or leg there is some resistance; in the latter, the muscles are perfectly flaccid and yielding.

In the treatment of cerebral hemorrhage Hammond says that during the first shock the best course is to do nothing. Let the patient severely alone in regard to medication, blisters, internal applications and bleeding. When the patient rallies, as in the majority of cases he will, it will be time to direct our efforts to relieve and cure. After absorption has taken place (which can be aided with *Bryonia*), if from injury to the brain the paralysis and mental disturbance continue it will be in order to select from a large number of remedies the appropriate one. My own success with the internal administration of remedies in cerebral hemorrhage has not been such as to warrant me in recommending any one of them highly. I will mention some of them: *Arnica*, *Rhus*., *Nux*., *Phos*., *Cuprum*, *Plumbum*, *Baryta carb.*, *Secale*, *Dulcamara*.

Hempel assigns a high rank to *Aconite* alleging that he has cured many cases with it, in some cases using the tincture in others the dilutions.

Other remedies are *Gels*., *Hellebore*, *Opium*, *Causticum* and a long list of medicines of minor importance. I do not give the special indications, not only from my own failure to cure with them but also because I think the indications laid down in our works on practice are hypothetical. A patient recovers and the physician attributes the cure or relief to the last medicine or medicines given. I do not, however, advise the non-administration of remedies. Make a careful selection and try. But I recommend the use of other adjuvant measures. First of these in value is ELECTRICITY. The Faradic or interrupted current should be used. Electricians differ as to

whether the direct or interrupted current is of greater benefit. Nearly all, however, prefer the latter. The reason assigned for its use is that the paralyzed limbs will not recover of themselves. They need stimulation to set them going again. The galvanic current supplies the needed stimulus. Friction with the hand or with silk, and passive motion (by the patient if possible) unless there is resistance from the muscles, are useful. These measures keep up nutrition and circulation. The treatment must be carried out systematically and perseveringly until success crowns our efforts or until there is no longer any hope of improvement.

In paralysis from softening there is more need for medication. *Cal carb.*, *Nux*, *Cinchona*, *Phos.*, and *Phosphide of Zinc* are the best remedies. As this variety is the result of deficient supply of blood and usually arises from nervous prostration from mental over-work or from dyspepsia, we need remedies to restore the general vigor, to promote digestion and assimilation and to recuperate the exhausted nerve forces. Select the remedy not for the paralysis but for the condition which gives rise to it, using at the same time the external treatment before recommended. It is doubtful if *Electricity* will not do harm instead of good, however, unless muscular contractility follows its application.

PARAPLEGIA.

Paraplegia, or paralysis of the lower part of the body, may arise from functional disturbance or from lesions of the spinal cord.

Causes.—Among the functional disorders which are causes of paraplegia may be enumerated excessive venery, masturbation, hysteria, chorea, etc. The lesions of the spinal cord which induce it are softening, sclerosis, inflammation, pressure of tumors, disease of the vertebræ and injuries.

Paralysis of the inferior parts of the body may be sensory or motor, or both sensory and motor. Motion alone is affected in the greater proportion of cases; sensation alone in a few instances; both motion and sensation more frequently than in hemiplegia.

The development of paraplegia is generally gradual although in some cases it occurs suddenly. It usually begins with a sense of weakness in the legs, and a disposition to stumble and fall. The paralysis varies in degree from a feeling of insecurity in walking to complete loss of power in the

limbs, confining the patient to the chair or bed. If sensation is also impaired or lost the difficulty in walking is increased. The patient, unable to feel the ground, has to be guided in his movements by the sense of sight. Other symptoms occurring are tremor, involuntary twitching, cramps, spontaneous movements and rigidity of the muscles. Reflex movements from irritating the muscles are excited in some cases, in others are not. Pain, coldness, burning sensations, feeling of numbness, pricking sensations, are present in a majority of cases. The pelvic organs in most instances are more or less affected. Involuntary evacuations take place or there is obstinate constipation with unconsciousness of the pressure of feces in the rectum. There is incontinence of urine with constant dribbling, or else retention necessitating the use of the catheter. In mild cases strong abdominal efforts suffice to expel the urine. In consequence of a part of the urine being retained there is irritation of the bladder from its decomposition. Priapism is occasionally present but has no special diagnostic significance.

The intellect is rarely affected in paraplegia, affording in this respect a marked contrast to hemiplegia.

The duration of the affection varies greatly. It may exist for years without any notable increase or any great impairment of the general health.

Emaciation and degeneration of the affected muscles take place to a degree proportionate to the completeness and duration of the paralysis.

Diagnosis.—The diagnosis relates to discrimination between paraplegia from functional disorders and organic disease. When occurring in connection with chorea, hysteria, epilepsy and diphtheria it may be regarded as functional.

Prognosis.—The prognosis depends upon the cause, the completeness or incompleteness of the paralysis. If caused by inflammation of the cord, softening or sclerosis, or tumors pressing upon the cord the prospect of recovery is small. In functional paraplegia the prognosis is favorable.

Treatment.—*Frictions* and the *Faradic galvanic current* are of value in functional paraplegia.

The remedies are *Bryonia*, *Æsculus*, *Aluminum*, *Caulyphyllum*, *Cocculus*, *Natrum mur.*, *Nux vomica*, *Phosphorus*, *Rhus tox*, *Secale*.

BRYONIA.—When caused by meningeal inflammation with pressure of effused lymph upon the spinal cord.

ÆSCULUS GLABRA.—Trembling and loss of power in lower extremities.

ALUMINA.—Paraplegia from spinal disease, loss of sensation in the feet, inability to walk with the eyes closed, great heaviness in the legs, dragging gait, cramps in the calves, no desire for stool.

CAULOPHYLLUM.—Hysterical paraplegia from disease and displacement of uterus.

COCCULUS.—Paralytic feelings in the legs.

NATRUM MUR.—Heaviness and paralytic feeling in the thighs, twitching in the muscles of the thighs, feeling of heaviness in the feet while walking, great heaviness of the feet, paralysis from diphtheria or from sexual excess.

NUX VOMICA.—Sensation of sudden loss of power in the legs, inability to stand on the feet and numbness and pricking sensation in the legs and feet, formication, paralysis of the bladder, dribbling of urine, paraplegia from over-exertion, from sclerosis of the posterior portion of the cord.

PHOSPHORUS.—Paraplegia from excessive venery, from masturbation, from softening of the spinal cord; formication.

RHUS TOX.—Paraplegia after rheumatism; retention of urine from paralysis of the bladder.

SECALE.—Paraplegia from congestion and inflammation of spinal cord; rapid emaciation of the lower extremities; involuntary discharges from bowels and bladder; severe spinal pains; gangrenous sores over coccyx and sacrum.

CHAPTER III.

LOCAL PARALYSIS.

PTOSIS—CAUSATION—PROGNOSIS—TREATMENT. PARALYSIS OF THE MOTOR BRANCH OF THE SEVENTH PAIR OF NERVES—CAUSATION—PROGNOSIS—TREATMENT. PARALYSIS AGITANS—SYMPTOMS—CAUSATION—DIAGNOSIS—PATHOLOGY—PROGNOSIS—TREATMENT. INFANTILE PARALYSIS—CAUSATION—MORBID ANATOMY—DIAGNOSIS—PROGNOSIS—TREATMENT. LEAD PARALYSIS—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—MORBID ANATOMY—TREATMENT.

PTOSIS OR PARALYSIS OF THIRD PAIR OF NERVES.

PARALYSIS of the third or motor oculi gives rise to dropping of the upper eyelid called *ptosis*, diverging strabismus, protrusion of the eyeball and dilatation of the pupil. These different effects correspond to the distribution of the several branches of the nerve.

Causation.—Paralysis of this nerve may be caused by intra-cranial lesions or by cold, injury or over use of the eye. When due to cerebral disease it is associated with paralysis of other parts and with other symptoms indicative of lesions of the brain. Sometimes it is the first event pointing to hemiplegia. In a case of hemiplegia coming under my observation ptosis preceded the hemiplegia about four weeks. This fact should be borne in mind in making a prognosis.

Prognosis.—If the paralysis proceeds from the effects of cold, from injuries or from over use of the eyes, the prognosis is favorable.

Treatment.—The remedies for ptosis are *Rhus*, *Causticum*, *Gelseminum*, *Conium*, *Arnica*.

Rhus is the chief remedy when the disease has been brought on by exposure to *damp* and *cold*, and particularly when occurring in persons subject to rheumatism.

CAUSTICUM.—Allen and Morton assert that more benefit has been derived from the use of this remedy than from any other. Its special indication is ptosis resulting *from exposure to cold*. Not to damp and *cold*, which calls for *Rhus*.

GELSEMINUM.—*Gelseminum* in large doses causes paralysis of the palpebral branch of the third nerve, and merits a trial in cases that do not yield to *Rhus* or *Causticum*.

ARNICA is indicated in paralysis of third nerve following injuries.

LACHESIS when divergent strabismus or ptosis occurs as a sequela of diphtheria. Paralysis of the third nerve occurring in connection with hemiplegia will be considered, in respect to treatment, as a part of the cerebral affection.

PARALYSIS OF THE MOTOR BRANCH OF THE SEVENTH PAIR OF NERVES OR PORTIO DURA.

(*Synonyms*, FACIAL PARALYSIS, BELL'S PALSY, HISTRIONIC PARALYSIS.)

Facial paralysis usually occurs on one side of the face only, though some cases are recorded of it affecting both sides.

The appearance of the patient suffering from facial paralysis is very singular. The features are forcibly drawn to the unaffected side and all symmetry between the two sides of the face is destroyed.

The expression on the paralyzed side is blank and unmeaning and devoid of all expression. The orbicularis palpebrarum muscle is powerless, and therefore is unable to close the eyelid sufficiently to cover the eyeball. In consequence of the immobility of the lids the eye is exposed to the effect of cold, dust, wind and light, frequently resulting in irritation of the conjunctiva. This open condition of the eye is regarded as pathognomonic of facial palsy. The patient cannot frown, nor can the eyebrows be raised or knit together.

He cannot whistle, or blow, or spit, the nostril of the affected side will not dilate, the cheek hangs loose and the angle of the mouth droops. In mastication he is frequently annoyed by the bolus of food getting lodged between the teeth and cheek from paralysis of the buccinator muscle. The saliva and fluids trickle from the corner of the mouth. Speech is not much affected save in the pronunciation of labials. This may be partly remedied by raising and supporting with the hand the inferior angle of the mouth.

Causation.—Exposure of one side of the face to currents of cold air, particularly when the body is heated, is the most frequent cause. A blast of cold air on one side of the face, remarks Dr. Graves, has been known to cause paralysis and distortion of several months standing. External injuries, sur-

gical operations, rheumatic and syphilitic taints, disease of the petrous portion of the temporal bone, anæmia, and pressure of tumors upon the nerve are causes.

Prognosis.—When arising from cold, rheumatism, or anæmia the prognosis is favorable. When the disease cannot be traced to those sources we should be guarded in our opinion. The prospect of recovery depends in a measure upon what portion of the nerve is affected. It is consequently desirable to ascertain if possible. Flint says: "It is desirable to determine in individual cases whether the paralysis be symptomatic of an intra-cranial affection or due to an affection of the nerve after it leaves the cranial cavity; in other words whether the paralysis be central or peripheral. If central, the paralysis is generally preceded or accompanied by symptoms denoting a cerebral affection. A point bearing on this question relates to the sense of taste. If the nerve be affected at its origin, or behind the situation at which the *corda tympani* is given off, the sense of taste on the lateral half of the anterior portion of the tongue corresponding to the paralyzed side is diminished as shown by comparing the sensations produced by placing successively on the two sides of the anterior extremity of the tongue some bitter substance in powder; for example, aloes. This diminution of taste is due to the *corda tympani* being involved in the paralysis. The taste is not affected if the cause producing the paralysis acts upon the nerve anterior to the situation at which the *corda tympani* is given off. Flaccidity of the palatine arch on the affected side and deflection of the uvula to the sound side denote that the cause of the paralysis acts upon the nerve, either within the Aquæductus Fallopii, or before it enters this canal, the branches supplying the levator palati and the azygos uvulæ muscles being here given off. According to Duchenne and others, if the facial muscles respond readily to electricity, the paralysis is dependent upon an intra cranial affection, whereas the paralysis is due to an affection of the nerve when the muscles do not readily contract under the electrical stimulus. This difference may be explained by the fact that in peripheral paralysis, or after the division of a nerve, the nerve and paralyzed parts undergo degenerative change, whereas this change occurs more slowly when the paralysis is central. Paralysis of the sixth nerve accompanying paralysis of the facial nerve, denotes a central lesion, these nerves arising from the same point in the floor of the fourth ventricle. The absence of reflex movements is evi-

dence that the paralysis is peripheral. If winking be not produced by touching the eyeball, the sensibility of the latter being preserved, the nerve is affected after leaving its central connections; on the other hand, if the eye be closed involuntarily by an impression made upon the conjunctiva, when the voluntary power is lost, the paralysis is central.

Treatment.—The remedies are *Galvanism*, *Belladonna*, *Causticum*, *Rhus tox.*, *Mercurius biniodide*, *Aurum met.*, *Ruta*.

The application of GALVANISM, using the interrupted current, has frequently proved efficacious in restoring the contractility of the paralyzed muscles.

BELLADONNA is indicated in paralysis of the right side of the face.

CAUSTICUM has in its pathogenesis facial paralysis, and clinical experience has shown it to be curative.

RHUS TOX is especially indicated if the paralysis has been caused by exposure to cold.

MERC. BINOIDIDE is indicated when the affection is caused by syphilis.

AURUM, if the paralysis is due to caries of the temporal bone.

RUTA, if caused by pressure of a tumor, or is the result of an injury.

In the cases which have come under my treatment the patients have recovered under the administration of *Rhus tox.*

PARALYSIS AGITANS.

(*Synonym*, SHAKING PALSY.)

Paralysis agitans consists in involuntary or shaking motions of the head, limbs and trunk of the body. The voluntary movements of the affected parts are preserved but their vigor is lessened. The senses and intellect are not impaired. In advanced stages of the disease there is a disposition to bend the body forward and to an acceleration of the gait called festination.

Symptoms.—The disease comes on very gradually and insidiously. Frequently the patient is unable to define its first approach. A feeling of weakness and a slight trembling in some part of the body is first observed. The trembling gradually increases and involves other parts, seldom going beyond the head and arms the first two or three years. In many cases

the trembling is altogether confined to the head and hands. In others it extends to the muscles of the lower extremities. Walking becomes difficult, the legs feel heavy, are raised with difficulty, so that stumbling and falls are of frequent occurrence. As the disease advances the tremors increase in intensity, becoming finally convulsive motions. Cramping of the muscles of the fingers and toes sometimes takes place. Towards the last, owing to deficient power in the muscles of the back, the patient bends forward while sitting or standing. The bending forward hinders the walking so that the patient stumbles along in constant fear of falling, by reason of the center of gravity being thrown forward. In consequence the patient feels impelled to hurry his steps into a run to prevent falling. Finally the tremors become so severe and general that the patient cannot perform the common offices of life, is unable to feed himself, to write, to hold a book, to read, to clothe himself, or to do any manual labor. At last, worn out with the incessant motion, loss of sleep and progressive debility, death comes to his relief.

Causation.—Age is the most frequent predisposing cause, the disease being almost entirely confined to persons of advanced years.

It is much more common to the male than the female sex. Exciting causes are violent muscular efforts, injuries, excessive mental exertion, violent emotions particularly terror or fright, venereal excesses, syphilis, rheumatism, dyspepsia, narcotic poisons, as opium, tobacco and alcohol. The disease may also occur in conjunction with other symptoms indicating lesions of the brain and spinal cord.

Diagnosis.—The diagnosis of the disease when occurring in the old is sufficiently clear, but it occasionally attacks persons under middle life. It may be confounded with chorea. The chief diagnostic points are, chorea attacks the young usually before puberty, paralysis agitans attacks adults. The muscular movements in chorea are jerking and irregular, in paralysis agitans they are to and fro in rather regular alternation. In chorea there are usually frightful distortions of the facial muscles, in paralysis agitans such movements are not observed.

Pathology.—In many cases no lesion of nerve tissue can be discovered. In senile paralysis agitans, especially in cases of long standing, the disease seems to depend upon an atrophied condition of the spinal cord, also on sclerosis of different parts of the cord, medulla oblongata and pons varolii. The

disease affects the motor centers exclusively, leaving intact the sensory and intellectual portions.

Prognosis.—This depends somewhat upon the age of the patient but in general is unfavorable. The older the patient the less the prospect of relief.

Treatment.—General hygienic measures are to be adopted. Moderate exercise, nutritious diet, abstinence from stimulants should be recommended; warm baths when there is much debility or if the patient is old, and tepid or cold baths for those more vigorous have proved beneficial.

GALVANISM.—The application of the continuous current has effected some cures. The interrupted current has produced no improvement.

The remedies indicated are *Agaricus*, *Baryta carb.*, *Phyostigma*, *Phosphorus*.

Remedies for impaired digestion, debility, rheumatic and gouty diathesis, disorders of the intestinal canal, etc., will be frequently called for.

A careful study of each individual case will be needed with due attention to the cause of the disease and to coincident affections.

INFANTILE PARALYSIS.

This disease, called also essential paralysis of infancy, attacks children without regard to sex between the ages of six months and three years. The invasion is usually sudden, the child being suddenly stricken with paralysis while in apparently good health. Often the seizures occur in the night. The paralysis may assume the form of hemiplegia or paraplegia, oftener the latter, and is limited to muscles of voluntary motion, sensation not being affected. Usually the paralysis is partial, single muscles or groups only being affected. The bladder and rectum are usually not implicated.

The temperature of the affected parts falls several degrees below the normal standard. In some cases the attack is preceded for several days by a slight fever. Infantile paralysis is apt to be more general at first than subsequently. That is, there may be hemiplegia at the first onset and afterwards only one limb remain paralyzed. Generally recovery is slower in the legs than in the arms and in certain groups of muscles than in others.

The groups of muscles most frequently affected in infantile paralysis are those of the anterior part of the leg, and the extensors and supinators of the hand. Certain deformities

are liable to occur, as talipes equinus and varus according to the groups of muscles involved.

The duration of the disease is very variable. It may pass off in a few days or remain one or two months. If for a much longer period it is liable to be permanent for life with atrophy and muscular weakness of the affected parts.

Causation.—The exciting causes are exposure to damp, irritation of teething or the presence of worms in the alimentary canal. In some cases it has followed diseases of various kinds, as whooping-cough, scarlet fever, measles, etc. In a majority of cases no cause can be assigned.

Morbid anatomy.—Post-mortem investigation of subjects who have previously been affected with infantile paralysis show atrophy of the anterior horns of gray matter and of the antero-lateral columns in those parts of the cord from which were given off the nerves supplying the affected muscles. Softening of nerve substance and degeneration of the cells are also found in the same portions of the cord.

Diagnosis.—The diagnosis is generally easy, the disease not being liable to be mistaken for any other affection.

Prognosis.—Infantile paralysis seldom terminates fatally. Death may occur in the beginning of the attack on account of its great severity but such instances are rare. The prognosis, therefore, relates to recovery or consequent paralysis and atrophy.

Dr. Hammond says that the prospect of permanent recovery depends upon the susceptibility of the affected muscles to the action of the galvanic current. If contractility is lost to the induced current, recovery will be difficult and the treatment protracted. If the primary current is also powerless, a cure is impossible. But if the muscles can be made to contract with either the induced or primary currents the cure is often merely a matter of time and patience.

Treatment.—The treatment should be both local and general.

Local treatment embraces heat, friction, passive movements and kneading.

Heat should be applied by immersing daily the affected limbs in a bath of salt water of a temperature of 100 or 120 and allow them to remain in it for half an hour; afterward friction with a dry towel, the flesh brush or the hand may be applied for a few minutes.

Friction in the same manner two or three times a day to

the extent of making the skin red will be of great service in promoting the contractility of the muscles.

Passive motion should be practiced freely and persistently and as soon as the will of the patient can move the paralytic limbs he should be encouraged to exercise them.

Kneading the muscles is another form of exercising them and of increasing the circulation. They should be pinched between the fingers to the extent of producing some pain. Every affected muscle should be gone over daily.

General remedies are *Electro galvanism*, *Secale*, *Nux*, *Physostigma*, *Phosphorus*.

In the application of ELECTRICITY the induced or Faradic current should be used if it produces contractility of the muscles; otherwise, the primary or direct current should be employed.

Whatever form is used it should be applied directly to the skin over the affected muscles and of sufficient power to induce contraction if it be possible.

Dr. Hammond asserts that even after fatty degeneration has commenced in the muscles, it may be arrested and the quantity of fat to become even lessened. An application should be made once in two days.

ERGOT, five drops of 1st dec. dilution and of *Nux* of same strength, once in three hours, may be given provided that the atrophic stage has not begun.

PHOSPHORUS may be useful after atrophy and degeneration have commenced. I would recommend a dose of the twelfth dilution once in six hours. Attention should be paid to the general health of the patient as regards diet, air and exercise.

LEAD PARALYSIS.

The accumulation of lead within the system may give rise to partial and even general paralysis, but usually its effects are local. Generally the paralysis is limited to the extensor muscles of the arms and legs, the upper extremities being more often affected than the lower.

Prior to the occurrence of paralysis the patient has usually suffered from lead colic or some other affection caused by lead poisoning.

Symptoms.—The first symptoms are slight numbness and muscular tremors of the upper extremities. Occasionally the muscles of the trunk and lower extremities are also involved.

Soon the patient notices that he has difficulty in extending the fingers or wrist, and that there is a general loss of strength in one or both hands, so that he is unable to raise the hand on a line with the forearm. This dropping of the hands is characteristic of lead poisoning and is called *wrist drop*.

In severe cases there is also inability to extend the forearm or to raise the arm from the side from paralysis of the triceps and deltoid. Observation also shows the flexor muscles to be affected, although to a much less extent than the extensors. From disuse of the affected muscles atrophy is liable to occur, the circulation is languid and weak, and painful swellings result in consequence.

In some cases there is aphonia from paralysis of the laryngeal muscles. Cases of hemiplegia, the result of lead poisoning, have occasionally been observed.

Causation.—The cause is, of course, the introduction of lead into the system either through the stomach, the air-passages or the skin.

Those most subject to poisoning by lead are workers in the metal; as painters, plumbers, printers, workmen in manufactories of red and white lead. Poisoning is also caused by the use of water conducted through lead pipes or which has been kept in cisterns lined with lead. The employment of powders and enamels for the skin, and of dyes for the hair is a not infrequent cause of lead poisoning, these substances usually containing lead in injurious quantities.

Diagnosis.—The history of the case, the occupation of the patient or his exposure to the action of the lead, the existence of the characteristic blue line around the gums and the nature of the paralysis tend to make the diagnosis correct.

Prognosis.—The prognosis is generally favorable, provided the causes are removed. Change of occupation is essential to workers in lead.

Morbid anatomy.—Few changes are found either in the nerve tissue or the affected muscles. In the latter the fibres are pale and yellowish, feeble and atrophied, with signs of fatty degeneration.

Treatment.—IODIDE OF POTASSIUM possesses the power, when taken into the system, of decomposing the albuminates with which the lead is united and of setting it free. The lead then appears in the urine in the form of *Iodide of Lead*. Its use in large doses is therefore recommended in cases of lead poisoning. But while the administration of *Iodide of*

Potassium eliminates the lead from the system it does not relieve the paralysis.

The remedies are *Electro Magnetism*, *Cuprum*, *Opium*, and *Platinum*.

ELECTRO MAGNETISM is the most potent agent to restore the affected muscles. The Faradic current should be used if it excites contractility, otherwise the direct current. Passive motion, frictions, and kneading are also useful.

I do not know of any symptoms in the provings of *Cuprum*, *Opium*, and *Platinum*, similar to those of lead paralysis, but clinical experience attests their efficacy.

CHAPTER IV.

SIMPLE CEREBRAL MENINGITIS AND CEREBRITIS, TUBERCULAR MENINGITIS AND CHRONIC HYDROCEPHALUS.

CEREBRAL MENINGITIS AND CEREBRITIS—SYMPTOMS—CAUSATION—MORBID ANATOMY—DIAGNOSIS—PROGNOSIS—TREATMENT. TUBERCULAR MENINGITIS—SYMPTOMS—CAUSATION—MORBID ANATOMY—DIAGNOSIS—PROGNOSIS—TREATMENT. CHRONIC HYDROCEPHALUS—SYMPTOMS—CAUSATION—PATHOLOGICAL ANATOMY—DIAGNOSIS—PROGNOSIS—TREATMENT.

CEREBRAL MENINGITIS.

By cerebral meningitis is understood inflammation of the pia mater and arachnoid, the dura mater not being involved.

Symptoms.—The disease may be divided into two stages, the first of congestion and inflammation prior to exudation, the second of exudation and effusion; the symptoms of the second stage being caused by the pressure of fluids, the result of the inflammatory process.

The symptoms during the first stage or period of excitement are, chill followed by fever, dry and hot skin, the temperature rising to 100 degrees or above, the pulse frequent, sharp and tense, the face flushed or alternately flushed and pale. Pain, usually very severe, is felt in the frontal or occipital region, sometimes over the entire head, which is increased by movement or pressure. The eyes are glistening, suffused, the pupils contracted; there is intolerance of light, the patient keeping the eyes firmly closed to exclude it. The hearing is preternaturally acute, the least sound causing distress and increasing the cerebral excitement. Delirium is usually present. Sometimes it appears early in the disease and is of a wild fierce character. At others, the invasion of the disease is marked by irritability. There is somnolence or wakefulness, or alternation of each, finally merging into active delirium. In very young children an attack of convulsions may occur in the beginning of the disease; in adults convulsions are the exception.

Vomiting is generally present in the beginning of the attack and may be persistent throughout. There is no epigastric distress or nausea or violent retching, nor repugnance to food. The tongue is generally clean and moist; usually there is constipation.

The duration of the first stage is short. It generally lasts but a day or two and then merges into the second or stage of oppression indicating exudation. The delirium becomes less active, vision and hearing are impaired, the pupils dilate and become insensible to light, the eyeballs turn upward and inwards; sopor sets in, gradually deepening into coma; the pulse is less frequent and occasionally intermits; the breathing is irregular, now rapid now slow. Usually there is subsultus tendinum and convulsive motions of the facial muscles with grinding of the teeth.

If the disease progresses towards a fatal termination the coma becomes more profound, the pulse is small, thready, and uncountable, the pupils are widely dilated, the face pale and sunken, the skin cold and clammy, the breathing stertorous. The sphincters relax and the urine and feces pass involuntarily.

Usually the invasion of the disease is sudden and decided, except in the case of the aged, when, as one eminent writer asserts, it commences insidiously and without the premonitory chill and fever. The first symptoms are peevishness, irritability of temper, confusion of ideas, loss of memory, restlessness and uncertain gait. After an indefinite period low muttering delirium sets in which gradually passes into somnolence and coma.

The duration of the disease is variable. Occasionally it is fatal in thirty-six hours though it usually continues about seven days. Occasionally death does not occur for three or four weeks.

Causation.—Simple acute meningitis occurs frequently in infant life, is rarer from six to fourteen years, and again becomes more frequent from sixteen to sixty. It is more frequent in males than in females. Predisposing causes are intemperance, excessive mental labor, violent emotions, and constant exposure to atmospheric changes. Exciting causes are injuries on the head, as falls and concussions, exposure to the heat of the sun, repressed eruptions of the scalp, rheumatism, and erysipelas.

Morbid anatomy.—The anatomical characters vary according to the stage of the disease. In the first there will be

intense redness of the membranes from congestion; in the second, an effusion of serum, sero-purulent or purulent matter in the meshes of the pia mater, in the subarachnoid space and occasionally in the ventricles of the brain.

Diagnosis.—Simple acute meningitis is to be discriminated from delirium tremens, cerebral typhoid, and tubercular meningitis.

From cerebritis it is almost impossible to distinguish acute meningitis, the two affections being almost invariably coexistent. Meningeal inflammation often extends to the brain tissue; and, conversely, cerebritis extends to the meninges.

Delirium tremens may be distinguished by the presence of its peculiar muscular tremors and hallucinations, by the abundant perspiration and soft pulse, and by the absence of headache.

Typhoid fever can be distinguished from meningitis by the less severe headache, the greater rapidity of the pulse, diarrhoea, absence of vomiting, and the slow invasion of the disease.

Prognosis.—The prognosis is grave, the disease being generally fatal.

CEREBRITIS.

This disease so seldom exists dissociated from acute meningitis that its consideration and treatment may properly be considered in connection with the latter affection. It is doubtful if general inflammation of the brain ever exists alone. Its causes, symptoms, diagnosis, prognosis, and treatment are so identical with those of meningitis that I shall consider them, and especially the treatment, under the same general head.

Treatment.—The remedies are *Aconite*, *Belladonna*, *Gelseminum*, *Bryonia*, *Hyoscyamus*, *Opium*, *Veratrum viride*, *Arnica*, *Hellebore*.

ACONITE is indicated in the *congestive stage*. The symptoms are, *high fever*, *pulse full* and strong, *throbbing of the carotids*, face flushed, eyes suffused and injected, headache, fear of death.

BELLADONNA is the most valuable remedy in the first stage of the disease, and before exudation takes place. The symptoms are intense headache, particularly in the forehead and temples, feeling as if the head would burst, wild delirium, eyes bright and sparkling, intolerance of light, extreme sensitiveness to noises, convulsions in children, vomiting, pulse quick and full.

BRYONIA is particularly indicated when the disease is passing into the stage of *exudation* or *oppression* or when it results from *rheumatism* or *erysipelas*. The indications for its use are: *delirium less active, merging into sopor*, sudden starting and crying out with pain in the head, grinding of the jaws, dark red face alternating with paleness, mouth dry, great thirst when aroused.

GELSEMINUM is more particularly indicated in cephalitis with intense congestion of the brain, great pain in the occiput, *thick speech*, face deep red, impaired vision, convulsions.

HYOSCYAMUS when the delirium is *loquacious*, the patient incessantly talking, singing, shouting, restless, trying to get out of bed, or else *obstinate mutism*, refusing to answer when spoken to.

OPIUM—Lethargy, *sopor* passing into *coma*, *stertorous breathing*, *insensibility*, pupils contracted, slow intermittent pulse, irregular sighing respiration, paralysis.

ARNICA is indicated if the disease has been brought on by a blow or fall on the head. It should be alternated with one of the other remedies according to the indications.

VERATRUM VIRIDE.—When caused by heat of the sun; vertigo and dizziness, intense headache with fullness of the arteries, double vision, flashes before the eyes, mental confusion, full, hard pulse, vomiting.

HELLEBORE is indicated if effusion of serum has taken place in the subarachnoid space or in the ventricles of the brain. The special symptoms are: *coma*, *insensibility*, vacant stare, pupils alternately contracted and dilated, eyeballs turned upward and inward, convulsions on one side of the body, particularly in children, face pale.

In the first stage the application of cold to the head should not be neglected. No treatment is more effectual in reducing the heat of the head, allaying the severe pain, and calming the delirium. Pounded ice in a bag is the best method of applying cold as it keeps up a uniform degree of cold for a considerable period and is adapted most readily to the form of the head. When ice cannot be obtained, frequent change of wet cloths may be made, or a small stream of water from a vessel held a few inches above may be continuously allowed to run upon the head, and continued but for a few minutes at a time.

TUBERCULAR MENINGITIS.

By tubercular meningitis is meant inflammation of the meninges and brain, caused by the pressure of tubercular deposit in the cerebral substance, or on the arachnoid and pia mater.

Symptoms.—Though the invasion of the disease is sometimes sudden, yet in a large majority of cases there are well defined premonitory symptoms which, if closely observed, indicate the nature of the malady.

Gradual emaciation is the most constant precursory symptom. The limbs lose their roundness, the flesh feels soft and flabby, the face is pale, the child is drowsy by day and restless at night, is easily tired, wants to lie down frequently, is peevish, fretful, and wants to be let alone; at night sleeps with eyes half open, grinds his teeth, starts suddenly from sleep and cries out. There is often a short dry cough, headache, dizziness, and some intolerance of light. There are usually irregular slight exacerbations of fever; the skin is hot, the tongue coated, the appetite variable, sometimes good, sometimes wanting. The bowels may be either constipated, loose, or irregular.

The duration of this period is from ten days to two months, with intervals of apparent improvement in the health. The next stage following the precursory symptoms already described may be characterized as the manifestation of the nature of the disease.

Vomiting is the most common symptom of special invasion. It may be persistent, or occur only two or three times, and occurs either with or without food in the stomach.

The headache becomes more severe, the patient moaning, and, if able to speak, crying out "my head!" "my head!" holding it with the hands, and disliking noise or movement, as it increases the pain. Convulsions are not infrequent at an early period, often assuming an epileptiform type. The countenance is alternately flushed and pale, the eyes are closed, the forehead knit. The pulse, in the first period of the invasion, is diminished in frequency, but subsequently is accelerated, and becomes somewhat irregular. Respiration is not at first much affected, but later on is unequal and irregular, with sometimes a few rapid respirations, then a cessation for a few seconds. Sighing breathing is not uncommon during unconsciousness. Finally stupor, coma, or convulsions come on; the patient lies on his back in a state of insensibility from which it is impossible to arouse him. The pulse be-

comes more and more feeble, the extremities cold and flabby. The urine and feces are passed unconsciously, deglutition is impossible, and death closes the scene.

In some instances the patient becomes suddenly comatose, soon afterward being attacked with convulsions and paralysis, speedily followed by death. The duration of this stage is from four to sixteen days.

When tubercular meningitis appears in the adult there will generally be found a previous history of pulmonary tuberculosis, which disease subsides as the cerebral affection sets in. Sometimes the attack early assumes an apoplectic or convulsive form. More frequently it comes on gradually, with vomiting, slight fever, and severe pains in the head. The patient is confused, unable to collect his thoughts, is fretful and irritable, wishes to be quiet, is annoyed by noise or conversation. There may be obstinate silence or a tendency to somnolence. The pulse is irregular and feeble, the temperature slightly increased. As the disease progresses there is partial unconsciousness or delirium, and either tonic or clonic spasms. Finally there is paralysis, profound coma, complete insensibility, weak, fluttering pulse, involuntary evacuations of urine and feces, followed by death.

Causation.—The causes are obscure. The children of dissipated, scrofulous, or syphilitic parents are most likely to be affected. Exposure to cold, insufficient nourishment, impure air, blows on the head, sudden suppression of eruptions, dentition, intestinal worms, tubercular deposits on the membranes of the brain, caries of the petrous portion of the temporal bone are assigned as causes. The disease occasionally follows measles and scarlet fever.

Morbid anatomy.—Post-mortem examination shows traces of inflammation of the membranes and effusion of serous fluid beneath the arachnoid and in the meshes of the pia mater. False membrane is also usually observed between the arachnoid and pia mater at the base of the hemispheres. Tubercles are often found in the cerebral substance, and granular tubercular deposits are scattered upon and between the membranes. Softening of the central parts of the brain occurs, with effusion of thin watery serum into the ventricles.

In the majority of cases tubercles are found elsewhere than in the brain and its membranes.

Diagnosis.—The use of the ophthalmoscope has been of great use in the diagnosis of tubercular meningitis. Bouchat gives the following characteristic appearances: "*First*, peri-

pheral congestion of the papilla, with spots of congestion in the retina and choroid. *Second*, dilatation of the retinal veins around the papilla. *Third*, varicosity and flexuosity of these veins. *Fourth*, thrombosis of the same."

Tubercular meningitis has symptoms in common with simple cerebral meningitis, cerebritis, abscess of the brain, subarachnoid hemorrhages, intra-cranial tumors, typhoid fevers, and simple convulsions. The principal diagnostic points are the gradual invasion of the disease, its tendency to ameliorations, and its hereditary nature—inquiry into the family history generally revealing a tubercular tendency in its members.

Prognosis.—This is generally unfavorable, especially when the disease has passed beyond the invasion period. Hammond says he has never seen a case recover.

Treatment.—If the prognosis is as unfavorable as eminent authorities consider it, not much can be expected from any remedies, no matter how carefully selected with reference to the symptoms. Undoubtedly, wise hygienic precautions may accomplish something if instituted in the earliest manifestations of the disease, or even before, if a tubercular diathesis is apparent. Suitable clothing, careful attention to diet, abundance of exercise in the open air, may ward off the disease or check it in its incipency.

Lilienthall, Raue, Bæhr and others give extended lists of remedies, with symptoms indicating their administration.

The most important of these for first stage are *Belladonna*, *Glonoine*, *Bryonia*, *Chamomilla*, *Ignatia*, *Ipecac*, *Pulsatilla*, *Hyoscyamus*, *Stramonium*, *Zincum*.

For second stage: *Apis*, *Apocynum*, *Digitalis*, *Hyoscyamus*, *Mercurius*, *Phosphorus*, *Opium*, *Argentum nit.*, *Moschus*, *Hellebore*, *Artemisia*.

I give the indications for a number of them, which most nearly cover the symptoms of the disease.

BELLADONNA.—Fever, dry heat of whole body, sleeplessness or sleep disturbed with starting and sudden crying out, during the first stage; in the second, severe pain in head, with sudden screaming, moaning, convulsions, drowsy, half comatose condition, with sudden starting and jerking, boring of the head backward in the pillow.

APIS MELLIFICUS.—Great heat, convulsions, sopor, interrupted by piercing shrieks, great restlessness at night, strabismus, trembling of the limbs, grating of the teeth.

HYOSCYAMUS is more especially indicated in simple cerebral

meningitis, but may be given in the tubercular variety with the following symptoms: excessive loquacity, delirium, jerking of limbs, red face, cold staring look, distorted eyes, convulsions, rolling of the head from side to side.

HELLEBORUS.—When effusion has taken place, automatic motions of limbs of one side, frequent rubbing of the nose, strabismus, the eyeballs being turned upwards and inwards, grinding of the teeth, face pale, sopor and insensibility, pupils dilated or contracted.

OPIMUM.—Comatose condition with half open eyes, pulse full and slow, stertorous breathing, pupils contracted and insensible to light.

Seitz, in a work of over four hundred pages treating of tubercular meningitis, devotes only two pages to its treatment.

HYDROCEPHALUS.

(*Synonym*, DROPSY OF THE BRAIN.)

This disease, met with in children at various ages, and which is often congenital, consists in a slow accumulation of serum in the ventricles of the brain or in the subarachnoid space. It is sometimes the result of tubercular meningitis, so that this latter affection is spoken of as *acnte hydrocephalus*.

The head attains a very large size in this disease, the sutures readily yielding to the pressure of the effused fluid. The bones of the cranium are usually thin and transparent, while the membranes are thickened.

The serum is usually found in the lateral ventricles, the subarachnoid space, or it may be contained in both. In one case nine pints were found in the sac of the arachnoid and one pint in the ventricles. The quantity of fluid varies from a few ounces to several pints. The bodily and mental functions are often but slightly impaired until a short time before death. When the accumulation of fluid is not large the patient manifests a very good proportion of mental and physical vigor. Heberden relates a case where there were no signs of dropsy during life, and yet eight ounces of fluid were found in the ventricles after death.

Symptoms.—Gradual enlargement of the head, open sutures and fontanelles, small face, prominent roundish forehead, emaciation of the body forming a striking contrast to the enlarged head, protrusion and downward look of the eyes, represent the usual appearance of a hydrocephalic infant. Usually there is fretfulness and irritability, great suscepti-

bility to noise and light, rolling movement of the eyeballs, and occasionally strabismus. Headache and nausea are frequently present. The bowels are constipated; the stools dark and offensive, with frequent attacks of colic; grinding of the teeth when sleeping, with loud screams on awakening.

The head often droops to one side from inability, on account of its weight, to hold it erect. The face is small and has a pinched and aged look. As the fluid continues to accumulate convulsions may ensue, with sometimes contractions and rigidity of the limbs in the intervals, ending, sooner or later, in death.

Occasionally the disease is arrested in its progress, and, in a few instances, absorption of the effused liquid has taken place. But usually no absorption occurs, only an arrest of effusion. The sutures and fontanelles ossify and close, a good many ossa wormiana being found along the line of the union. Life may in this manner be prolonged for years, the patient having a fair amount of intellectual vigor, although fretful, irritable, and somewhat childish.

Causation.—Arrest of development of the brain is generally the cause when the disease is congenital. If occurring after birth it usually appears about the time of dentition, but occasionally has been observed later on in childhood, and, in rare instances, in middle life and old age. Dean Swift died of hydrocephalus at the age of seventy-eight. The causes are slow inflammation of the arachnoid.

Pathological anatomy.—The quantity of fluid varies from a few ounces to several pints. Trousseau mentions a case in which the head measured thirty-nine inches in circumference, and contained thirty pints of fluid. When the fluid is contained in the ventricles they are considerably dilated, the walls being of normal consistence or even thickened. The brain above the ventricles is thinned, the convolutions are flattened out and the sulci disappear. The bones of the skull are thin and transparent, and less firmly united than in the normal condition.

Diagnosis.—The diagnosis is in general very easily determined.

Prognosis.—Although the disease almost invariably terminates in death it may progress very slowly, and the patient may live from one to ten years, or even longer, frequently dying of some intercurrent affection. Death, however, usually occurs from convulsions and coma from sudden inflammation of the membranes or from exhaustion.

Treatment.—Chronic hydrocephalus has been treated mechanically by *bandaging*, and by *tapping* through the sutures and fontanelles.

BANDAGING is done by means of strips of plaster three-fourths of an inch wide applied circularly, transversely, and diagonally. Trousseau at one time recommended and practiced it, but gave it up in consequence of the compression in one case forcing the fluid through the ethmoid bone into the nostrils, causing the death of the patient.

TAPPING is commended by some and condemned by others. If done, the spot selected for the operation is about an inch from the anterior fontanelle, near the coronal suture, taking care to avoid the longitudinal sinus. The fluid should be slowly and cautiously withdrawn, the skull being supported by bandages during and after the operation. It is doubtful if any permanent benefit is derived from *tapping*, the fluid being almost certain to again accumulate.

The remedies best adapted to the treatment of the disease are: *Helleborus*, *Apis*, *Apocynum*, *Calcareæ carb.*

Cases are on record of cures by each of these medicines. Marcy and Hunt record a case of a boy, aged one year, treated with *CALCAREÆ CARB.* His appearance was scarcely human; the head was immense, with open fontanelles and squinting eyes; his only attempt at speech or vocal sound was a distressing grunt; the skin was hanging in loose folds; emaciation; very tumid abdomen; diarrhœa, alternating with hard scybala, passed from him as from a senseless animal; periodical convulsions amounting to opisthotonos occurred; he drank milk greedily through a tube, and, until satisfied, he continued the grunting noise. After a dose of *Calcareæ*, 200 degrees, he was much improved. *Calcareæ*, 200, and *SULPHUR*, 200, were given in weekly doses, one medicine one week, the other the next week, and so on alternately. In six months he was quite well.

If the patient commenced to improve under *Calcareæ* I can see no reason why the *Sulphur* should also be given.

CHAPTER V.

EPIDEMIC CEREBRO-SPINAL MENINGITIS AND
INFANTILE CONVULSIONS.

EPIDEMIC CEREBRO-SPINAL MENINGITIS—DEFINITION—MORBID ANATOMY
—HISTORY—SYMPTOMS—DURATION—DIAGNOSIS—PROGNOSIS—CAUSA-
TION—TREATMENT. INFANTILE CONVULSIONS—CAUSATION—SYMPTOMS
—SEQUELÆ—PROGNOSIS—TREATMENT.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

(*Synonyms*, CEREBRO TYPHUS, PETECHIAL FEVER, SPOTTED
FEVER.)

CEREBRO-SPINAL MENINGITIS is an acute epidemic disease, with great disturbance of the central nervous system; commencing with chill or chilliness, intense headache and vomiting, afterward delirium or stupor; tonic spasms of groups of muscles, especially at the back of the neck drawing the head backward; tetanoid contraction of the muscles of the trunk; marked depression of the vital powers; slowness of the pulse; and an eruption of vesicles, petechiæ or purpura on the skin.

Morbid anatomy.—The anatomical appearances are hyperæmia of the pia mater of the brain and spinal cord and subarachnoid effusion of serum, lymph, or purulent matter. The extent to which effusion takes place varies greatly in different cases. The brain and spinal cord are usually much congested. Softening of some portion of the spinal cord has occasionally been observed. No changes are found in other organs of the body, except that Dr. Klebs describes certain alterations in the internal structure of the kidneys, which he believes to be characteristic of the disease. Other observers have noticed an excessive fluidity of the blood.

History.—It is probable that the disease has been known under various names for centuries, but it was first clearly recognized and described as an independent malady in 1837.

In that year an epidemic of cerebro-spinal meningitis broke out in the southwest part of France, and spread over the whole of the southern border. From 1837 to 1848 there

were forty-seven outbreaks of the disease in France. It also prevailed in Algiers, at Gibraltar, in Ireland, Denmark, and other European countries. In 1842 it appeared in this country. From 1842 to 1850 it raged in many of the States, after which time there was a period of comparative inactivity. In 1866 occurred a most extensive and fatal epidemic in Ireland, the brunt of the attack falling upon Dublin.

Symptoms.--The first symptoms are almost invariably chill or chilliness, intense headache, dizziness and vomiting. In some cases the attack comes on suddenly; in others, there are precursory symptoms, such as discomfort in the head, neuralgic pains, a general feeling of malaise and slight fever.

The chills, headache, and vomiting are speedily followed by muscular pains in the back of the neck, with tonic spasms of the muscles drawing the head backwards, this retraction constituting one of the most characteristic and diagnostic symptoms of the disease. The headache increases in violence, the mind becomes confused, and there is acute and sometimes violent delirium. As the disease progresses tetanoid contractions of other groups of muscles occur, the trunk being bent backwards and the legs bent upon the thighs. Spasmodic action is also seen in the muscles of expression of the face and occasionally of the eyeballs.

In many cases the patient is extremely sensitive to touch. The tongue is usually clear, except when the malady assumes a typhoid type, when it becomes dry, cracked, and brown, the lips and teeth being covered with sordes.

The pulse is frequently slower than in health, sometimes as low as fifty beats to the minute, and wanting in firmness. The respiration is not much disturbed. The temperature is increased, ranging from 100 to 105. The countenance is pale, rigid, and contracted, expressive of severe suffering. The skin is either moist or dry and hot to the touch. The bowels and kidneys are not much affected. In many cases a vesicular or roseolar eruption appears upon the skin.

Such are the symptoms of an ordinary attack, but if the disease assumes a fatal tendency the spasmodic symptoms increase, the patient becomes comatose, and death occurs from asthenia or asphyxia in from one to eight days. If life is prolonged beyond eight days various complications are apt to occur, such as ulceration of the cornea, deafness, facial paralysis, rheumatism of the large joints, nervous exhaustion, indefinitely postponing recovery. If none of these compli-

cations occur the patient may get well in from two to four weeks.

In the fulminant form of the disease (fulminant epidemic cerebro-spinal meningitis) the attack comes without any precursory symptoms. The patient passes quickly into a state of collapse somewhat resembling the algid stage of cholera. The body is cold and somewhat livid, covered with a cold perspiration; the countenance is pale and pinched. There is generally chilliness and shivering, pain in the head, vomiting sometimes of a dark colored fluid. Drowsiness, muttering delirium, and coma follow in quick succession. The respiration and pulse are abnormally slow. Albumen is present in the urine in large quantity. Purpuric spots appear on the skin, at first red or purple, but soon become black, and run together in irregular streaks or masses, occasionally assuming a gangrenous appearance. This form of cerebro-spinal meningitis is very fatal, death often occurring in a few hours, and is seldom delayed beyond two or three days.

In still another form (purpuric epidemic cerebro-spinal meningitis) the symptoms of the two preceding varieties are combined, together with chilliness, shivering, vomiting, intense headache, retraction of the head, severe muscular pains; there may be great prostration of the vital powers, muttering delirium, stupor, coma, and appearance of petechiæ, ecchymoses, purpuric spots and hemorrhages from the nose, mouth, or bowels.

Duration.—The duration varies greatly in different epidemics. During the epidemic which prevailed in central Iowa in 1866 many deaths occurred in twelve hours from the first invasion. The average duration, when terminating fatally, was from four to six days; when terminating in recovery, from ten to thirty days. In some cases six or eight weeks elapsed before convalescence was established. Hence, it will be seen that nothing very definite can be stated in regard to duration.

Rate of mortality.—Of the patients sent to the Philadelphia Hospital in 1866, thirty-three per cent died; in the Hardwick Hospital, Dublin, in the same year, the deaths were eighty per cent. During the ten years from 1855 to 1865 the mortality was about thirty per cent. The minimum rate recorded in any epidemic was twenty per cent. The mortality is greater in youth and old age. Between fourteen and thirty-five the proportion of deaths to recoveries is less than before or after.

Diagnosis.—Trousseau, in a lecture on enteric or typhoid fever, mentions one form of it as closely resembling cerebro-spinal meningitis, having many of the characters of the latter disease; namely, shivering, intense headache, delirium, great prostration, coma, and petechiæ. The invasion of typhoid, however, is not so rapid, nor death so speedy, as in the severe forms of cerebro-spinal meningitis. By observing the marked and characteristic symptoms a mistaken diagnosis is not apt to be made. A brief summary of the main features of the disease may not be amiss. Severe headache coming on suddenly and early, dizziness, delirium, extreme sensibility to touch, rachialgia, retraction of the head, tetanic spasms of groups of muscles, prostration, coma, eruptions, purpura, petechiæ, ecchymoses.

Prognosis.—The disease is very dangerous and fatal, and the prognosis is necessarily grave. The mortality is greatest during the first six days, but after that the patient is by no means out of danger. Until convalescence is fairly established we are not certain of the safety of the patient. The mortality, however, has not been excessive under homeopathic treatment.

Causation.—A large majority of the outbreaks of the disease occur in the winter and spring, and it is, therefore, undoubtedly true that *season* acts as a powerful predisposing cause. Of two hundred and sixteen epidemics, in different parts of Europe, one hundred and sixty-six were in the winter and spring. Of eighty-five, in this country, fifty-seven were during the cold months. Locality, soil, and sanitary condition do not seem to exert any influence over the disease. It is doubtful if the affection is contagious. Its contagiousness has been asserted by some, and some facts brought forward to corroborate the assertion. But the experience of most physicians is against it. It has been suggested by some writers that the disease is malarious—a form of malarial fever. The fact that cerebro-spinal meningitis prevails most frequently in winter, which time is most unfavorable to the development of malaria, renders the supposition almost impossible. It has been shown, also, that the disease has prevailed in localities entirely free from malarial fevers.

Treatment.—The remedies are *Aconite*, *Belladonna*, *Gelseminum*, *Baptisia*, *Nux vomica*, *Hyoscyamus*, *Rhus tox*, *Veratrum viride*.

Gelseminum and *Veratrum viride* are more especially indicated in the beginning of the attack, and frequently

promptly arrest its further progress. During the epidemic of 1872 the administration of these remedies sufficed to cure the majority of my cases.

GELSEMINUM is indicated at the first onset of the disease. The symptoms are: severe chill, followed by high fever; intense pain in the occiput; severe *muscular pains in the back and limbs*; pulse full, but *not rapid*; flushed face; feeling of prostration; pupils dilated; dullness of apprehension; some vomiting. Use first decimal dilution, a dose once an hour.

VERATRUM VIRIDE.—Chill, followed by fever; severe bursting headache, pains beginning in *forehead and running back to spine*; myalgic pains in *neck and back*; *head drawn backward*; convulsive twitchings of muscles of hands and face; pulse *full* and slow, sometimes as slow as forty-five beats to the minute; back of the head hot; mental confusion; trembling; fullness in the head; vomiting. *Veratrum viride* may be given in the same potency as *Gelseminum*.

BELLADONNA is indicated as follows: high fever; pulse *full and rapid*; face flushed; *eyes bright and sparkling*; *active delirium*; intense stupifying headache; retraction of head (*muscular pains not a marked symptom*); head hot, with cool extremities.

BRYONIA.—When the stage of congestion has passed into that of exudation. Dull, heavy pain in the head; retraction of head, with severe pain on motion; soreness of all the muscles; lethargy, with tendency to somnolence and coma. I have generally used *Bryonia* in alternation with one of the other remedies. *Bryonia*, from its power over inflammation with exudation of serous membranes, ought to prove very efficient in meningitis. Alone, however, it has disappointed me, but I deem it valuable in conjunction with other medicines to promote absorption and arrest effusion.

NUX is indicated when the spinal membranes are more particularly the seat of the inflammatory process, especially if tonic contractions of the muscles are present. In one case of repeated attacks of opisthotonos, it proved curative. Muscular contractions, brought on by touch, or sudden shock or emotion, irritable humor, sensitiveness to noises, are relieved by its use.

OPIUM is indicated if sopor or coma occurs, with slow snoring breathing; face dark red; eyes staring and glassy, with contracted pupils; pulse slow and intermittent; paralysis of one side.

HYOSCYAMUS is occasionally indicated. The symptoms are: talkative delirium; fearful and anxious apprehension; desire to get away or escape from some one; or, in the second stage, grinding of the teeth; involuntary micturition; epileptiform convulsions; pulse small, intermitting, and quick; eyes disturbed or rolling in the orbits.

BAPTISIA.—Rolling of the head from one side to the other; bruised feeling at the base of the brain; biting of the fingers; numbness of extremities; livid spots on the body; flushed, dusky face; hot skin.

Rhus.—When the disease assumes a typhoid type; restlessness or stupefaction; ecchymoses and petechiæ; tongue dry; teeth and lips covered with sordes; muttering delirium; pulse rapid and feeble. Also useful in protracted cases with great debility.

ACONITE is occasionally useful in the stage of congestion; chill, followed by fever; full, bounding pulse; high temperature; great thirst; feeling of soreness in the muscles as though beaten; severe throbbing headache; fullness and throbbing of carotids.

INFANTILE CONVULSIONS.

Convulsions occur at all periods of life, and in association with organic changes in the nervous system of the most varied kinds. They follow injuries to the head immediately or remotely, cerebral hemorrhage, tumors and abscesses in the brain. They occur during, before, and after parturition, in the course of Bright's disease of the kidneys, and syphilis. They are often induced by reflex irritation of the nervous centers, from dentition, worms, indigestion, etc.

Convulsions are essentially symptomatic; the real cause, a morbid condition, being somewhere in the nerve tissues, but often eluding most careful search. A very large proportion of cases of convulsions occur in children under two years of age. Out of 27,431 deaths from convulsions 26,847 were of children under five years old, and 24,577 were under two years old. I shall, therefore, consider the disease as essentially infantile.

Causation.—Anything which rapidly depresses the nervous system, or which irritates the nerve centers, meningeal inflammation, debility, weakness from profuse or protracted diarrhœa, indigestion, overloading the stomach, teething, irritation of worms, exanthematous fevers, acute bronchitis, are

all exciting causes which may induce an attack of convulsions. It is also alleged that whatever will give rise to delirium in the adult will cause convulsions in infants. Hereditary tendency is also assigned as a cause. One case is recorded of a woman subject to convulsions in childhood: of eleven children born to her all had frequent attacks, and six died of convulsions.

Symptoms.—The attack may come on suddenly, and without warning, or there may be premonitory symptoms. The child is peevish, fretful, wakeful, or unusually drowsy, sleeps with the eyes half open, starts suddenly from sleep. Grinding of the teeth during sleep is a frequent symptom. Sometimes convulsions are preceded by a stare or wild look on waking, or a slight twitching of the muscles of the limbs or face. They may be unilateral or general.

In slight attacks the child stares vacantly, loses consciousness, and the muscles become rigid in tonic spasms. The attack may end here, and the child recover. More often clonic spasms follow. The muscles contract and relax; the hands are clinched with the thumbs turned inward on the palms; the head is jerked in all directions; the muscles of the face and lips work violently, distorting the countenance; the eyeballs turn upward or are moved rapidly to and fro; the pupils are dilated and insensible to light; the face is livid. The respiration is irregular and laborious from contraction of the muscles of the thorax. The pulse is quick and feeble. The spasm lasts from one to three minutes, when the convulsive action of the muscles ceases, the breathing becomes easy and regular, and the skin assumes its natural color. The child may, after the cessation of the spasm, become irritable and cry, but usually falls asleep. Occasionally there may be only a single convulsion, but usually there is a recurrence at greater or less intervals. In favorable cases, the paroxysms occur at longer intervals, are less violent, and of brief duration. On the contrary, in unfavorable cases, the paroxysms grow more severe and prolonged, the patient is hardly out of one before another comes on, or is in a state of stupor in the intervals, and finally sinks into complete coma, which persists until death closes the scene.

In unilateral convulsion there is frequently a rhythmical motion of one arm in the intervals of the paroxysms: the child raising the hand to the head, extending the arm from the body and then bringing it down to its side; keeping up these series of motions with great uniformity. I have noticed

this more frequently when convulsions occur in the course of some acute disease, and regard it as a very unfavorable symptom. Hemiplegia is occasionally observed after a series of spasms.

Sequelæ.—The sequelæ of infantile convulsions are hemiplegia, strabismus, impairment of special senses, loss of speech, and imbecility.

The most frequent of these is hemiplegia. It often occurs during unilateral convulsions, generally passing off after recovery from them, but sometimes remaining and becoming permanent. It may be incomplete, so that there is only a slight disability, the leg regaining greater power than the arm. In some cases, in addition to the loss of power, there is rigidity of the muscles of the affected side. As the child grows up the paralyzed side does not keep equal pace in growth with the sound side; the parts are smaller, the bones as well as the muscles.

Prognosis.—Owing to the great uncertainty as to the cause of convulsions the prognosis will need to be guarded. As a general rule, convulsions induced by the irritation of teething, the presence of worms in the alimentary canal, by indigestion, or occurring at the beginning of acute diseases, terminate in recovery. On the other hand, the prognosis is unfavorable when they occur during protracted diarrhœa, dysentery, enteritis, whooping-cough, or in severe attacks of cholera infantum. If the result of meningeal or cerebral inflammation, recovery is doubtful.

In general, the more frequent or violent the seizures, the more profound the coma, and the younger the child the greater the danger. I had one extraordinary case on account of the frequency and great number of the paroxysms. In forty hours the child had two hundred and forty convulsions, being one in every ten minutes. Each convulsion lasted about two minutes. At the end of forty hours they became less and less frequent, and finally ceased; the child making a good recovery. The patient was one week old. I was unable to ascertain the cause.

Treatment.—Avoid all unnecessary interference during the convulsion. Loosen the clothing, and admit plenty of fresh air. If the paroxysm is prolonged, place the patient in a warm bath for five or ten minutes. If the head is hot, wet cloths, moderately cold, may be applied to the occiput.

If it appears probable that the irritation is from a tense

gum, it should be lanced, a crucial incision being made down to the tooth.

When caused by the presence of worms in the intestines, or by indigestion, suitable remedies should be administered, according to the general indications.

The remedies indicated for convulsions are: *Belladonna*, *Chamomilla*, *Cina*, *Cicuta*, *Gelseminum*, *Ignatia*, *Hyoscyamus*, *Nux*, *Cuprum*, *Coffea*, *Helleborus*, *Calcarea carb.*

BELLADONNA is indicated if the child starts and jerks during sleep; wakes suddenly, screaming as from fright; staring eyes; dilated pupils; anxious, fixed look, followed by convulsive working of the muscles of the face; throwing the body backward, with rigidity of the trunk; convulsions from irritation of dentition.

CALCAREA CARB. is a valuable remedy during dentition when there is very slow growth of the teeth, with frequent convulsions.

CHAMOMILLA.—*Extreme restlessness; child not satisfied with anything; desires to be constantly carried; one cheek red, the other pale; jactitation of facial muscles during sleep, followed by convulsive jerking of arms and legs; convulsions from irritation of the stomach on account of the milk of the mother disagreeing; convulsions from nursing after a violent fit of passion in the mother or nurse.*

CINA.—Convulsions induced by the presence of worms in the alimentary canal, with distension and hardness of the abdomen, itching of the nose, fetor of the breath, and twitching of the limbs during sleep.

CICUTA VIROSA.—Sudden attack of convulsions without premonitory symptoms. The child becomes suddenly rigid, with fixed, staring eyes; violent spasms of the muscles of the face and arms, not affecting the trunk or legs; bluish puffed face; convulsions with opisthotonos; sudden rigidity, with great relaxation afterward.

GELSEMINUM.—Convulsions from sudden congestion of the brain, or from reflex irritation, with sudden loud onteries; spasm of one leg and arm; convulsions at the *beginning* of *eruptive* fevers.

IGNATIA.—Convulsions from fright attended with frothing at the mouth; single parts seem to be convulsed; tonic spasms.

HYOSCYAMUS.—Rolling of the head from side to side; unconsciousness between the spasms; protruding eyes; convulsions from overloading the stomach; convulsions of long duration.

Nux.—Convulsions from indigestible food; renewed by touching or moving the patient.

Cuprum.—Convulsions of new-born children; spasms of one side; strabismus; spasm of short duration, recurring at short intervals; *convulsions* during *whooping-cough*, and during desquamative stage of eruptive fevers.

Bryonia.—Convulsions from *repelled eruption* in measles, scarlatina, and variola.

Coffea.—Convulsions of teething children, with grinding of teeth; convulsions from over excitement.

Helleborus.—Convulsions from dropsy of the brain; rhythmical motions of one arm and leg; irregular twitching of one side of the face; strabismus; pale face; eyes insensible to light; retraction of thumbs.

Aconite.—Convulsions from teething or in fevers; with hot, dry skin, great thirst, pulse full and rapid; general erethism; jerking of muscles.

CHAPTER VI.

SOFTENING OF THE BRAIN.

SOFTENING OF THE BRAIN—ACUTE AND CHRONIC SYMPTOMS—CAUSATION—
MORBID ANATOMY AND PATHOLOGY—DIAGNOSIS—PROGNOSIS—TREAT-
MENT—ADVENTITIOUS PRODUCTS OF THE BRAIN.

ACUTE SOFTENING OF THE BRAIN.

SOFTENING of the brain is a disease characterized by diminished consistence and degeneration of the brain tissue. There are three varieties of softening enumerated by authors; namely, white, red, and yellow. The first, or white softening, is due to gradual degeneration of the brain tissue, and hence is called non-inflammatory softening. Red softening is supposed to be caused by inflammation of brain substance due to the presence of a clot, though more modern investigation has shown that it is due to impaction of fibrinous clots in the cerebral arteries. The third form occurs idiopathically in circumscribed patches.

Symptoms.—These, in general terms, are impairment of mind, sensibility, and motility; culminating in convulsions or coma, and death. Certain premonitory symptoms may be present, such as dull headache, more or less constant, dullness of sight and hearing, tingling and numbness in the extremities, slight confusion of ideas, vacillation of mind, irritability, diminished self-control, listless expression of face.

Sometimes the tingling, numbness, and diminished muscular power, are only felt on one side of the body. These symptoms may continue for an indefinite period, and may precede either acute or chronic softening. As the disease develops other symptoms are superadded.

The condition of the mind is especially indicative of the complaint. There may be wandering of thought, talkativeness, or sudden irritability; diminished intellectual power, inability to answer questions correctly, a forgetfulness of words or phrases, or calling things by wrong names; sometimes the words of the patient are wholly irrelevant to the occasion.

Sensibility is impaired, sometimes quite destroyed for brief periods, and then restored. Occasionally there is hyperæsthesia, or rather an increased sensibility to painful sensations. In some cases there is sensibility to pain but inability to locate its seat. For instance, the prick of a pin on the foot is referred to the thigh.

Decreased motility is sometimes observed, particularly in the lower extremities, characterized by a dragging gait. Paralysis of one side of the face is occasionally present.

The second stage of cerebral softening is characterized by either a sudden apoplectic seizure, convulsions, or delirium.

The apoplectic attack may be sudden or come on gradually. In the former case the patient falls suddenly, but rarely becomes completely insensible, as is the case in apoplexy from cerebral hemorrhage. The patient lies quietly as if in profound slumber, taking no notice of questions, but if spoken to sharply, moves, opens the eyes, replies incoherently, and again relapses into heavy slumber, snoring continuously. Usually after some hours, or even days, the patient recovers in a measure the use of his faculties, so as to converse or write with tolerable correctness, but there is more or less dullness and impairment of the intellect, the patient growing gradually worse, finally passing into a state of complete imbecility of mind and paralysis of motion. In other cases the patient has repeated recurrences of apoplectic attacks, ending in profound coma and death.

The convulsive form resembles epilepsy, and is liable to be confounded with it. The patient is taken with a fit which passes through the several phases incident to an epileptic paroxysm, save that the patient does not become stupid or sleepy after it. He is restless or talkative for a brief period, when he is seized with a second and third, each convulsion being followed by increased stupor, and finally by paralysis. Generally there is partial restoration, to be followed at a greater or less interval by another series of convulsions, the patient eventually sinking into coma, when death soon ensues.

In the form characterized by delirium, and which is more generally observed in the aged, the patient suddenly becomes delirious, is restless, busy in manner, becomes tired and falls asleep, waking up confused in mind, but gradually becomes rational again. These attacks recur at frequent intervals, but gradually hemiplegia and coma set in as in the other forms of the disease.

A peculiar symptom attending softening of the brain is

termed aphasia, or loss of speech, occurring as a symptom of disease. Investigations by M. Broca and Dr. Hughlings Jackson have demonstrated that aphasia is caused by lesions of the second and third convolutions of the left anterior lobe of the brain, most frequently due to plugging of the left cerebral artery by an embolus from the left ventricle of the heart. Speech may be so seriously impaired that no intelligible sound can be uttered, though it is obvious that the power of thought remains and that ideas are passing through the mind; or articulation of certain letters only may be impossible. Some aphasic patients can write intelligently; others can only write a jumble of words without meaning. Still others can convey ideas by signs only.

CHRONIC SOFTENING.

Chronic softening may follow cerebral hemorrhage, or it may develop slowly and insidiously, and may or may not be preceded by premonitory symptoms.

The symptoms are diminution of intelligence, impaired memory, confusion of ideas, and incoherence of expression. Occasionally there is mild delirium, or a restless, flighty, and excited demeanor. There is also loss of control over the emotions, the patient weeping or laughing without adequate cause. Headache is present in a majority of cases; it is not so severe as in meningitis, and is usually frontal. With the pain there is a sense of confusion and weight in the head. As the disorder progresses the intellectual weakness increases, one faculty failing after another. Occasionally there is a monotonous repetition of one word or phrase, which may continue for an indefinite period. Sensibility and motility are gradually impaired; paralysis follows, sometimes of groups of muscles, as those of the face, or of speech; sometimes of one side, partial at first, but finally becoming complete. The patient becomes drowsy, is roused with greater and greater difficulty, and finally sinks into a comatose condition and dies. Tonic spasms, tremors, or epileptiform convulsions are not uncommon.

Causation.—Anything which diminishes the supply of blood to the brain substance may induce softening. Innutrition, anæmia, dilatation of the heart, a clot in the cerebral mass, or an embolus in the cerebral arteries, are some of the causes of softening.

Morbid Anatomy.—Post-mortem examinations show dif-

ferent degrees of consistency of the affected brain and marked variations in color.

In white softening there are different degrees of consistency, from a slight change from the normal appearance to a semi-fluid condition, without change in color. Red softening has the same degrees of consistency as the white, and differs in color alone. Yellow softening occurs in circumscribed spots, in which the brain is converted into a moist, tremulous pulp, retaining no characteristics of normal brain substance. The diseased portion rises above the level of the surrounding mass, and is of a straw or sulphur tint.

In extreme cases the affected portions of the brain show no trace of nerve structure, the microscope only revealing granules, fragments of tissue, blood pigments, and the remains of degenerated vessels.

Pathology.—Pathologists have long been divided in their views as regards the nature of the processes ending in softening of the brain. Some deeming them inflammatory and others non-inflammatory. The lowering of nutrition from vascular obstruction, with its consequent effusion of serum, together with the degeneration occurring in consequence, is sufficient to explain the phenomena of softening.

Diagnosis.—The condition of the intellect prior to any apoplectic or paralytic seizure is a diagnostic point. Softening is accompanied by well marked indications of disturbed intellect, and if recovery from an apoplectic attack occurs the impairment of the intellectual functions remains. On the contrary, apoplexy or paralysis from hemorrhage is seldom preceded by mental disturbance, and although the mind may be profoundly affected at first, yet when the patient recovers from the attack there is a rapid restoration of the mental powers. In hemorrhagic apoplexy or paralysis the attack is usually sudden; in softening it is gradual. In the former there is neither rigidity nor convulsion unless the lesion is very extensive, in the latter there is often twitchings of muscles or tonic spasms. In the convulsive form it is to be distinguished from epilepsy by the history and age of the patient, and by the same mental conditions as before described.

Chronic softening is to be distinguished from tumor and abscess of the brain, and from chronic meningitis. There is present, however, in chronic softening gradual impairment of intelligence, sensibility, and motility, a prematurely aged appearance, a feeble heart, and commonly some disease of the liver or kidneys. In cerebral tumor and meningitis the char-

acteristic symptoms are pain with violent exacerbations, local paralysis, epileptiform convulsions, gastric disturbances, but usually unimpaired intelligence.

Prognosis.—The prognosis is unfavorable but not necessarily fatal. If due to embolism the obstructed vessel may become clear, or a collateral circulation be established, and restoration of the brain may occur.

The chances of recovery are relatively greater in the young than in the old, especially when the latter are affected with chronic disease of the heart or kidneys. Unfavorable symptoms are apoplectic or convulsive attacks with increasing feebleness and rapidity of the pulse, flaccidity of the muscles, and involuntary passage of urine and feces.

Treatment.—If the attack occurs in the young or middle aged, and has been caused by excessive devotion to business, prolonged anxiety, or other emotional disturbance, removal of the exciting causes may be followed by a cure. In the old, fatal attacks of apoplexy or convulsions may be postponed by careful attention to nutrition, exercise in the open air, avoidance of violent emotions, a light and agreeable occupation. Constipation and straining at stool should be guarded against.

The remedies more especially indicated are: *Nux vomica*, *Phosphorus*, and *Phosphide of Zinc*, in the incipient stage. *Opium*, *Belladonna*, and *Hyoscyamus*, in the second stage.

The first named remedies are indicated for the causes which induce softening, rather than for the symptoms characteristic of the disease.

The latter are indicated for apoplectic and convulsive seizures, and attacks of delirium, respectively.

Hammond recommends the direct galvanic current from the back to the front of the head. If the patient becomes hemiplegic he prefers the Faradaic current to the direct, and directs that it be passed through the affected muscles for half an hour at each application; repeating the operation two or three times a week.

ADVENTITIOUS PRODUCTS OF THE BRAIN.

Several adventitious growths are found in the brain, the existence of which may or may not give rise to various degrees of mental disturbance and objective and subjective symptoms referable to cerebral disease. Among these may be enumerated tubercle, syphilitic growths, melanotic, cancerous, fibrous, osseous, and vascular tumors, gliomata, blood

clots, abscesses, cysts, calcareous concretions, etc. The most frequent of these are syphilitic growths, cancerous and fibrous tumors, and abscesses.

The differential diagnosis is very difficult, if not impossible, and it is not easy to discriminate these affections from other diseases of the brain and its membranes. The symptoms usually present are pain felt deep in the head, constant but subject to exacerbations of great intensity, disordered digestion, constipation, paralysis of one side or of more limited extent. Numbness and tingling are common sensations. Hearing and sight are frequently impaired. Vertigo is not infrequently present. The intellectual faculties are usually not affected, the mind remaining clear even after the patient has been seized with epileptiform convulsions and hemiplegia. There is often great irritability of temper, and in some instances brief attacks of mild delirium.

The pain in the head increases in intensity, and the exacerbations become more frequent. Sooner or later there are attacks of epileptiform convulsions, from which the patient recovers. These are succeeded by others. The patient becomes hemiplegic, loses control over the bowels and bladder, and finally sinks in profound coma, ending in death.

The prognosis is generally unfavorable. If the growths are of syphilitic origin the prospect of recovery is more favorable.

Treatment.—If syphilitic growths are diagnosed *Bini-iodide of mercury*, 2d dec. trit. should be given three times a day for a considerable period.

Phosphorus and *Silicia* are indicated for abscess of the brain.

For cancer, tumors, etc., medicinal treatment is seldom of any benefit.

CHAPTER VII.

SPINAL MENINGITIS, MYELITIS, LOCOMOTOR ATAXIA, AND MULTIPLE CEREBRO-SPINAL SCLEROSIS.

SPINAL MENINGITIS—SYMPTOMS—CAUSATION—MORBID ANATOMY—DIAGNOSIS—PROGNOSIS. MYELITIS—CAUSATION—MORBID ANATOMY AND PATHOLOGY—TREATMENT. LOCOMOTOR ATAXIA—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGICAL ANATOMY—TREATMENT. MULTIPLE CEREBRO-SPINAL SCLEROSIS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGICAL ANATOMY—TREATMENT.

SPINAL MENINGITIS.

INFLAMMATION of the membranes of the cord alone is seldom met, it being generally associated with inflammation of the cord itself (myelitis), or of the brain and its membranes.

Symptoms.—Chilliness, followed by fever; sharp pain along the spine and in the extremities, aggravated by movement, resembling in character the pain of pleurisy; rigidity and difficulty of moving the muscles of the trunk, which, together with the pain, have intermissions, sometimes of considerable length if all motion is carefully avoided; some increase of sensibility of the lower extremities, priapism, and want of control over defecation and micturition.

If the upper part of the spinal membranes is the seat of inflammation there will be more or less difficulty of respiration. A few cases are on record where death has speedily ensued from rigidity of the thorax. The intellect is not affected and there are no well marked head symptoms of any description. If there is much effusion we may find paraplegia, the paralysis extending upwards as the effusion increases. Toward the close there is great prostration, with delirium and coma.

Causation.—The cause is not well understood. Rheumatism, exposure to cold from lying on the damp ground, syphilis, suppression of some habitual discharge, and caries of the spine, are all assigned as causes.

Morbid anatomy.—The appearances after death denote

inflammation of the membranes, particularly the pia mater, with exudation of plastic lymph, and the effusion of a turbid, sero-purulent fluid between the arachnoid and pia mater. The effusion causes the cord to have a swollen, opaque, and yellowish appearance.

The spinal cord and the anterior and posterior roots are generally involved to some extent.

Diagnosis.—The intense pain in the back, aggravated by any movement of the spinal column; pains in the nerves radiating from the affected parts; exaltation of sensibility, tonic spasms of the muscles of the back, and the various degrees of paraplegia, serve to distinguish the affection.

Prognosis.—Spinal meningitis, either in the acute or chronic form, is a very serious disorder, and its course is usually steadily onward to a fatal termination. The prognosis in the chronic form is more favorable, but even in this there is not much hope of a favorable termination.

MYELITIS.

Myelitis, or inflammation of the spinal cord, is not often observed, being generally associated with disease of the membranes. The symptoms vary according to the seat and extent of the inflammatory action.

If seated in the upper portion there is difficult deglutition, inarticulate speech, irregular pulsation and hemiplegia. If in the cervical portion there will be difficult deglutition, inability to raise the head or to hold it erect, dyspnoea, pricking and numbness in the upper extremities followed by paralysis. If in the part giving off the phrenic nerves life is soon destroyed from paralysis of the muscles of respiration. In inflammation of the dorsal portion there is pricking and formication in the hands and feet, paralysis of the arms and legs, difficult respiration, palpitation, and oppression in the precordia. If the lumbar portion of the cord is affected there is great pain in the abdomen, with a disagreeable feeling of tightness around the waist, numbness and tingling in the legs, paralysis of the legs, priapism and retention of urine and feces, followed by involuntary discharges. Complete anæsthesia of the paralyzed limbs is sometimes seen.

The general symptoms pertaining to myelitis, and which serve to distinguish it from meningitis, are, a feeling of burning produced along the spine on passing a sponge saturated with warm water over it, absence of pain in the spine, espe-

cially on movement, absence of tenderness on pressure, loss of voice, difficult respiration, diminished sensibility, and tendency to bed sores.

Causation.—Exposure to cold, strumous diathesis, excessive sexual indulgence, syphilis, etc.

Morbid anatomy and pathology.—The cord may be found either softened or indurated. Most frequently it is reduced to a yellowish red pulp, of the consistence of cream, the yellowish or reddish tint being derived from more or less admixture of pus or blood corpuscles.

If the cord is hardened it sometimes presents a pale, bloodless appearance, and is as hard as cartilage; in other cases it is more or less red and vascular. In either case, when examined under the microscope, its proper tissues are found to be broken up and destroyed.

The prognosis of myelitis, acute or chronic, is very unfavorable. Cases of recovery are recorded, but they are very few.

Treatment.—The treatment of spinal meningitis and myelitis calls for the administration of nearly the same remedies.

The remedies are: *Aconite*, *Belladonna*, *Bryonia*, *Gelseminum*, *Hypericum*, *Secale*, *Nux vomica*, *Mercurius protiodide*, *Rhus tox.*

ACONITE is indicated if the attack is brought on by exposure of the spinal cord to cold, as by sitting on the ice, or by a current of cold air against the back for any length of time, or by sudden check to perspiration.

The symptoms are: Chill, followed by high fever; cutting, intense pain along the spine; numbness and tingling in the back; paralysis of upper or lower extremities.

BELLADONNA is more particularly indicated when the upper portion of the spine is affected. The symptoms are: Shooting, gnawing, and stabbing pain in the spine; difficult respiration; frequent startings, as if electric shocks were running through the limbs.

BRYONIA.—Stitch-like pains in spine, aggravated by the slightest motion.

GELSEMINUM.—Congestion of the spinal membranes and cord; difficulty in moving the muscles of the trunk, which feel bruised; paralysis of the bladder; loss of voluntary motion.

HYPERICUM is indicated if the disease has been caused by concussion, as from a fall or blow. The symptoms are: The

slightest motion elicits cries of pain; vertebræ very sensitive to touch; numbness and tingling in the arms and legs; inability to stand; great dread of standing or walking.

Prof. Gilchrist, of Detroit, considers this remedy most valuable in affections of the spine from injury.

SECALE.—Tenderness and soreness of the spine; tingling along the spine, extending to arms and legs; numbness and insensibility of the limbs; anæsthesia of the limbs; constriction in epigastrium; paralysis of rectum and bladder.

To be given in 1st dec. dilution.

MERC. PROTIODIDE.—When the disease is the result of syphilis.

RHUS TOX.—When caused by exposure to *damp* and *cold*, particularly from lying on wet ground. Symptoms: High fever, restlessness, tingling sensations in the extremities, paralysis of upper extremities, painful tension on moving, and tenderness in the spine.

LOCOMOTOR ATAXIA.

(*Synonym*, POSTERIOR SPINAL SCLEROSIS.)

Locomotor ataxia is an affection of the posterior portion of the spinal cord, characterized by impairment of sensibility, chiefly in the lower extremities, loss of co-ordinating power in the muscles, and various nervous derangements, as impairment of sight and hearing, paroxysms of neuralgic pains, and occasionally ptosis and strabismus.

Symptoms.—The symptoms at the outset vary in different individuals. Generally the disease begins with either dull, boring pains in the back and lower extremities, or, more frequently, darting, lancinating, lightning-like pains, which shoot down the legs along the course of the nerves, resembling those caused by an electric shock. Occasionally there is a feeling of constriction around the body.

In some cases the first symptoms are cerebral, consisting of cephalalgia, derangement of vision, vertigo, or epileptic convulsions. In others, the stomach and bowels are affected, and there may be nausea, vomiting, diarrhoea, or constipation.

Sooner or later, in locomotor ataxia, there is diminished sensibility accompanied by a lack of power of co-ordination—inability to control and guide the action of the muscles of the extremities. The disorders of motility seem the most apparent, but they are in reality dependent upon the diminished sensibility. Some of the symptoms of anæsthesia are

a feeling as if some soft foreign substance was under the foot; as if the toes were too large for the shoe; or, as if the stocking was wrinkled; marked impairment of the sense of touch in the soles of the feet, in the calves of the legs, and back of the thighs; numbness; diminished sensibility to pain caused by pricking and pinching; and, also, slowness in the transmission of painful sensations to the brain. Generally the ability to distinguish differences in heat and cold remains unaffected. There is also impairment of the proper sensibility of the muscles, joints and bones of the extremities, and especially of the legs. The patient can tell clearly where his feet are only by looking at them, and is unable to move them in any definite direction unless aided by the sense of sight.

Coincident with these disorders of sensibility are, also, disorders of motility. The impairment of the power of motion is not due to paralysis of the muscles, but the difficulty in standing or moving about arises from want of coordinating motor power. If the patient is sitting or lying he can (provided he sees what he is doing) move either leg into any position he desires, or exercise considerable muscular force.

Disorders of motility are first manifested when the patient attempts to walk in the dark, or with his eyes shut. He reels and staggers when attempting to move, and is quite liable to fall. In more advanced stages of the disease even standing with the eyes closed, particularly when the feet are placed close together, becomes difficult or impossible. The gait is next changed from that which is natural. The leg is jerked forward and a little sideways, the heel coming down suddenly, the sole following with a flapping motion. The patient is obliged to walk with the eyes carefully fixed upon the ground before him or upon his feet, for, deprived of the assistance of sight, he is unable to walk at all. It is particularly difficult to walk on smooth surfaces, to ascend or descend staircases, or to move through a crowded street.

Other symptoms are loss of tactile sensibility in the fingers, and adroitness in the use of the hands. The patient is unable, unless aided by sight, to place the finger upon any designated portion of the body. There is difficulty in writing, especially in forming certain letters, and the movements of the fingers are abrupt and uncertain. Sight and hearing are both frequently impaired. Singing and humming noises in the head are generally present. Ptosis and strabismus were observed

by Duchenne to be present in the majority of cases. Tumefaction of the joints, indigestion, constipation, paralysis of the bladder, inordinate sexual desire, and spermatorrhœa, are occasional, but not constant, symptoms.

The advance of the disease in the cord produces an aggravation of all the symptoms. There is an almost entire loss of motion, atrophy of the muscles, bed-sores, general anasarca, great debility, and the patient dies of extreme exhaustion, unless carried off by some intercurrent disease.

Locomotor ataxia is more common in males than in females. Of 177 cases, 128 occurred in men, and only 49 in women. It is also a disease of adult life; usually occurring between the ages of 20 and 40 years.

Causation.—In many cases it is difficult to ascertain the cause. Syphilis, venereal excesses, injuries, exposure to dampness, continued exposure to the vibration of railway carriages (such as railway conductors are subject to), excessive use of alcoholic beverages, and, perhaps, occasionally hereditary predisposition, are causes of locomotor ataxia.

Diagnosis.—With ordinary care the diagnosis of locomotor ataxia should usually be made without any difficulty. It may, however, be confounded with paraplegia and lesions of the cerebellum.

In paraplegia there is marked impairment of muscular power, paralysis to a greater or less extent of the bladder and sphincter ani, and diminished sexual vigor. The darting, electric pains of locomotor ataxia are also wanting. The gait, instead of being irregular and jerking, is slow and dragging; and there is also absence of disorders of sight and hearing.

In affections of the cerebellum there may be irregular movements in walking, such as a reeling, staggering gait, or an invincible propensity to bear to the right or left, or to go sideways; but the movements are not abrupt and jerking as in locomotor ataxia, and there is absence of neuralgic pains and anæsthesia in the feet and legs.

Prognosis.—The prognosis is unfavorable. The disease generally pursues an unfavorable course; sometimes lasting for years before a fatal termination is reached, and in some instances remaining stationary for considerable intervals. Dr. Hammond reports seven cases cured by him. Other writers mention occasional cures, especially when treatment has been commenced at an early stage.

Pathological anatomy.—It was at one time supposed

by Duchenne that locomotor ataxia was the result of a lesion of the cerebellum, but more recent and thorough investigation has fixed the seat of the disease in the posterior columns of the spinal cord, or, to be more exact, in the posterior root zones of the cord. The lumbar or the dorso-lumbar region is most liable to be affected, although occasionally the cervical is also implicated. The vertebræ, spinal canal, and membranes are generally unaffected.

According to Lockhart Clarke, "the lesion consists of atrophy and disintegration of the nerve fibres to a greater or less extent, with hypertrophy of the connective tissue, which gives to the columns a grayish and more transparent aspect. Many of the blood vessels that traverse the columns are loaded or surrounded to a variable depth by oil globules of different sizes. For the production of ataxia it seems to be necessary that the changes extend along a certain length (from one to two inches) of the cord."

The intra-cranial lesions consist in progressive atrophy and degeneration of the optic disk and nerves, and also of the third, the sixth, and auditory nerves. In some cases there is found an accumulation of water in the synovial cavities of the joints, and general œdema of the soft parts.

Treatment.—It is doubtful if the provings of any medicines have produced the pathological conditions which constitute locomotor ataxia, but they contain a number of symptoms, subjective and objective, which are to a certain extent characteristic of the disease. The remedies which have analogous symptoms are: *Alumina*, *Arsenicum*, *Argentum nit.*, *Cal. phos.*, *Gelsemium*, *Nux vomica*, *Phosphorus*, *Plumbum*, *Physostigma*, and some others.

ALUMINUM.—Heaviness of lower limbs; can scarcely drag them; inability to walk except with the eyes open and in the day time (Herring). Pain in the back as if a hot iron were thrust through the lower vertebræ (Allen). Lightning-like pains shooting to and fro in the back and abdomen (Allen). Aluminum is reported by Von Bœnninghausen and others to have proved beneficial.

ARSENICUM.—Insecure and stumbling gait, diminished sensibility in the feet and legs, complete ataxia of the muscles of the extremities (the gait was as in an excessive chorea), dullness of sight and hearing, and roaring and ringing in the ears (Allen.)

ARGENTUM NITRICUM.—Tension as from a band around the hypochondria; walks and stands unsteadily (Herring). Ring-

ing in the ears and deafness; unsteady, staggering gait (Allen).

GELSEMINUM.—Cannot walk, muscles will not obey the will; shooting pains in the legs, coming in paroxysms; acute, sudden, darting pains along the nerves; tingling, pricking and crawling; confused vision, and deafness (Herring).

NUX VOMICA.—Unsteadiness of the lower extremities, numbness of the legs, anæsthesia of the skin, so that the prick of a pin is not felt; constipation, headache, and indigestion.

PHOSPHORUS.—Hands and feet numb and clumsy, fornication in the legs, anæsthesia of the legs, excessive sexual desire, seminal emissions (Allen). Nyctalopia, hardness of hearing, and roaring in the ears.

PHYSOSTIGMA.—On walking, feeling of unsteadiness from the knees downward, so that the tread must be careful, especially when the eyes are shut—the patient feels as if he must look to see where he is going; darting pains in limbs, more in the legs than arms.

PILOCARPINE has been given to relieve the darting, lightning-like pains that are so frequently annoying. A powder of the 2d dec. trit. three times a day.

The hygienic treatment varies with different writers from absolute rest to active exercise.

Dr. Mortimer Granville gives this plan, which I quote: "The patient is directed to stand, with his eyes closed, in his bath, after pouring a small can of cold water down the spine; and to persevere in the attempt to do this steadily for, at first a quarter of an hour, and as his state improves for half an hour every morning. He is to be furnished with a chair or rail at hand, to which he can cling in case of need, but instructed to avoid using it except in actual danger of falling. When he commences the daily exercise he will probably for some two or three weeks make but little progress, but after this he will begin to be able to stand."

MULTIPLE CEREBRO-SPINAL SCLEROSIS.

Sometimes sclerosis appears in islets scattered here and there throughout the brain and spinal cord, which condition constitutes multiple cerebro-spinal sclerosis.

Symptoms.—The symptoms vary according as the disease first makes its appearance in the brain or spinal cord. If in the former the first manifestations are headache, derangements of vision, vertigo, impairment of hearing, difficult

articulation, and tremor. If sclerosis first appears in the cord there will be weakness and dragging of the lower extremities, difficulty in using the hands, pains in different parts of the body, spasmodic jerkings and twitchings of the limbs, and paralysis. Unless the brain is involved tremor is usually absent.

Tremor of the muscles of the head and body is characteristic of multiple cerebro-spinal sclerosis. It differs from the movements of paralysis agitans, for, whereas in paralysis agitans the tremor is constant and does not depend upon the voluntary movements of the muscles for its excitation, in sclerosis it is only present during efforts at motion—it then at once begins. Tremor is often first seen in the tongue, causing difficulty of articulation, but more often in the eyeball, which oscillates from side to side. This symptom is called nystagmus, but is not peculiar to sclerosis. I remember a family of four persons who each had this peculiarity, and in whom nystagmus was congenital. In other respects their health was excellent.

Another characteristic symptom is the mode of articulation. It has been compared to the articulation of children just beginning to read, or to the scanning of classical poems. The speech is drawling and monotonous, with a tendency to disarticulate words into syllables.

As the disease advances paralysis becomes more strongly marked, the urine dribbles away from the bladder, the bowels become constipated, the derangements of vision and hearing increase, articulation becomes more and more difficult, the muscles of deglutition are partially paralyzed, so that the saliva instead of being swallowed dribbles from the mouth. Usually the mind is not affected unless the hemispheres are involved.

In a certain proportion of cases (about one-fifth) apoplectic-form attacks occur. The patient remains a day or two unconscious and then recovers his usual condition, except for a short-lasting hemiplegia. These attacks recur at intervals of one or two months, and not infrequently the patient dies comatose in one of these attacks.

Death generally occurs from exhaustion, the patient being worn out by his sufferings and from innutrition.

Dr. Radcliffe sums up the symptoms of multiple spinal sclerosis as follows: "Tremor accompanying all voluntary movement; impairment of speech, with monotony of voice and a 'scanning' articulation; nystagmus (movement of the

eyeballs from side to side); amblyopia (feebleness or indistinctness, without total loss, of vision); diplopia (double vision); vertigo, and epileptiform attacks."

Causation.—Hereditary predisposition, exposure to cold and wet, excessive exertion of mind and body, injuries to the head, concussions, and syphilis, are supposed to be predisposing and exciting causes. The disease occurs oftener in females than in males. Three-fourths of all the cases belong to the female sex. The age most favorable to it is between twenty and thirty. It is not unknown, however, in quite young persons.

Diagnosis.—Tremor, during muscular effort, and subsequent to paralysis, and the characteristic articulation, will serve to distinguish multiple cerebro-spinal sclerosis from other lesions of nerve tissue.

Prognosis.—The prognosis is very unfavorable; few cases of recovery are on record. Amendment may take place under judicious hygienic and remedial treatment, but relapses are apt to occur sooner or later. The duration of the disease varies from three to ten years.

Pathological anatomy.—The brain and spinal cord show numerous patches of a grayish or yellowish gray color, irregularly distributed. They are clearly distinguished from the surrounding healthy tissue, and sometimes slightly elevated above the surface. They are consistent enough to be readily felt by the finger. On division with the knife they present a clean, smooth surface, and offer more resistance than the healthy brain tissue. They vary in size from a minute speck to the magnitude of a hazel nut.

In the spinal cord they are found scattered along its length at varying distances from each other. They are seldom found in the cortical part of the cerebrum. They are more abundant in the white substance, the walls of the ventricles, the corpus callosum, the pons, and the medulla oblongata. In the cerebellum but few are found, and these in the interior.

Charcot describes their appearance under the microscope as follows: "Microscopical examination, even when a low power is used, enables us to state that the apparently healthy region bordering the sclerosed patch really presents, to a certain width, very plain traces of alteration. When you pass the apparent limit of the sound parts the lesions become more marked, and they augment gradually in intensity as you approach the center of the patches where they acquire their highest degree of development. While proceeding thus

from the circumference to the center we are led to recognize the existence of several concentric zones, which answer to the several phases of the alteration."

In the peripheral zone the nerve tubes become atrophied, the atrophy being mostly in the medullary sheath. In the second zone the nerve tubes are still further reduced in size, and in some the medullary sheaths have entirely disappeared. In the central region of the sclerosed patch the nerve tubes have entirely disappeared. The blood vessels passing through the patches contain a larger number of nuclei than in the normal state, and their parietes are so much thickened that their caliber becomes notably smaller.

Treatment.—Under any method of treatment there is not much hope of a successful result. *Arsenicum*, *Secale*, *Aurum muriaticum*, *Phosphide of Zinc*, *Nux vomica*, *Barium*, and *Belladonna*, have been tried with varying results.

The continuous galvanic current is recommended in the earlier stages of the disease. Massage or kneading of the muscles, and wet sheet packing, have their advocates.

Hygienic measures, or attention to diet and clothing, change of climate, avoidance of sexual excesses, moderate exercise, and congenial occupation, may prolong life and mitigate the severity of the symptoms.

CHAPTER VIII.

CATALEPSY, SOMNAMBULISM, TORTICOLLIS, TETANUS, AND HYDROPHOBIA.

CATALEPSY—CAUSATION—TREATMENT. SOMNAMBULISM—TREATMENT. TORTICOLLIS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. TETANUS—SYMPTOMS—CAUSATION—PROGNOSIS—PATHOLOGY—TREATMENT. HYDROPHOBIA—SYMPTOMS IN MAN, INCUBATION—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGICAL APPEARANCES—TREATMENT.

CATALEPSY.

CATALEPSY, from a Greek word meaning seizure or arrest, is a disease characterized by a suspension, more or less complete, of sensation and volition, without convulsions.

There is also a kind of tonic spasm of the voluntary muscles, so that the muscles remain in the position they may be at the time of seizure, or in which they may be placed subsequently. The attack may last from a few minutes to a day or more.

In the only case of catalepsy I have seen, the patient, a woman twenty-two years of age, suddenly became motionless and rigid. The action of the heart and lungs was but little affected; the countenance was pale, the eyes closed. She would remain for some minutes in any position, then gradually sink down. In general she was entirely unconscious during the fit, but once stated that she heard her friends talking about her. The attacks lasted about twelve hours. She had been, prior to the first attack, anæmic and debilitated, and had also suffered from uterine derangements.

Occasionally catalepsy has become endemic. Dr. Vogt published an account of an endemic of the disease which prevailed at Billingshausen. The population of the place consisted of 256 persons, about half of whom became affected; being known as the "stiffened ones." "Without any premonitory symptoms the patient suddenly fell down. The aspect became death-like, the face pale, the eyes fixedly directed to one point, with their axes converging, the lips closed and protruded, and the fingers semi-flexed. Attempts

to speak resulted in short and unintelligible sounds. The muscular system was alone affected; the senses and intellect remained uninterfered with. The attack lasted from one to five minutes, and its occurrence appeared to be favored by cold."

The Doctor believed the long-prevailing system of inter-marriage among the villagers to be the cause.

Causation.—The most common exciting cause seems to be strong mental emotion. Predisposing causes are anæmia and uterine disorders.

The peculiar force or power called mesmerism produces in persons subject to its influence a condition of body and mind analogous to catalepsy. Occasionally the disease is coincident with epilepsy, or a precursor of it.

An epileptic young man of my acquaintance would, while walking, speaking, singing, or eating, be suddenly taken with a cataleptic seizure, lasting but a second or two, when he would resume his interrupted action as though nothing had happened.

Occasionally the disease is simulated, but the deceit is usually readily detected.

Treatment.—General hygienic measures for the improvement of the health, such as are applicable in hysteria, are first indicated.

The remedies indicated are: *Ignatia*, *Aconite*, *Coffea*, *Chamomilla*, *Hyoscyamus*, *Platina*, *Stramonium*, *Sulphur*, *Gelseminum*, *Cinchonia*, and *Phos. acid.*

The remedy in any given case is determined by the exciting cause rather than by the disease itself.

IGNATIA, when caused by grief or fright.

CHAMOMILLA, if brought on by anger.

ACONITE, when caused by fear or anger.

PLATINA and CONIUM, if from inordinate sexual indulgence.

GELSEMINUM, CINCHONIA, and PHOS. ACID, if from masturbation.

COFFEA, when caused by excessive joy.

HYOSCYAMUS, from jealousy.

SOMNAMBULISM.

(*Synonym*, SLEEP-WALKING.)

Somnambulism may be defined as a dream so vivid that it is able to exert a motor power upon the body.

The sleep is profound, for it is difficult to rouse the somnambulist from it; and it is also shown by the bewildered stare when roused and the slow return of consciousness. Sleep-walking is more frequent in children and youth than in adults.

Its most common exciting cause is overloading the stomach and consequent indigestion. When, however, the habit is once formed it is apt to become persistent. In this it follows the rule of all diseases of the nervous system, which are peculiarly apt to become chronic in spite of the removal of their causes. It is liable, also, to recur periodically.

Somnambulism is sometimes hereditary, having been known to prevail in three generations of the same family.

While the disease is the cause of alarm to friends and relatives, and danger to the patient, on account of the liability to accident from falls down stairs, or from windows, the general health suffers but little. Those who are subject to it are generally the equals of their companions in bodily and mental vigor.

Treatment.—Preventive treatment is to be tried. Too profound sleep, which induces the morbid phenomena, should be prevented by waking the patient two or three times during the night. The head should be kept well elevated on the pillow. A light supper only should be eaten to prevent indigestion.

If the sleep-walker is found wandering about it is best to lead him quietly and gently back to bed, and avoid suddenly awakening him. The shock and alarm may cause serious mischief.

Bryonia, *Natrum muriaticum*, *Silicia*, *Phosphorus*, and *Cedron* have in their pathogenesis symptoms corresponding to the phenomena of somnambulism.

Dr. Casanova relates the cases of two persons cured of sleep-walking in one week by CEDRON, 12th dil., given in frequently repeated doses.

Hempel asserts that the affection may be cured by the 2d dec. trit. of the *Oxyde of Zinc*.

TORTICOLLIS.

(*Synonym*, WRYNECK.)

Torticollis is a spasmodic condition of the muscles of the neck; generally clonic, in consequence of which the head is thrown to one side, toward one shoulder, or backward. It

generally occurs in adult life, but is occasionally met with in children.

Torticollis sometimes commences suddenly, but more often gradually; the first symptoms being an uneasy feeling in the neck, or an inability to find a comfortable position for the head on the pillow, with a sense of uneasiness in the neck. As the disease progresses the uneasiness becomes pain, increased by efforts to hold the head erect, or by turning it in a contrary direction.

The pain is of a dull, aching character, and is relieved by supporting the head, or by lying down. After the disease has lasted some time there is a constant series of movements of the head—clonic spasm of the muscles turning the head in one direction, and the will of the patient making an effort to antagonize the movement—the result being that the head is constantly moved by a succession of jerks. Finally, however, the head is habitually carried to one side, the spasm becoming tonic. The muscles on the side from which the chin is turned finally become hard and contracted; those on the opposite side being soft, and sometimes atrophied. Occasionally the muscles of the shoulder are affected so that the acromion is elevated. It is not noticed that one side is more liable to be affected than the other.

Causation.—Exposure to cold, wounds, injuries, and carious teeth, are the most frequent causes of torticollis.

Diagnosis.—This is generally easy. The affection needs to be discriminated from that form of muscular rheumatism known as “stiff neck.” In the latter the attack is sudden, the head is permanently fixed, not from spasm of the muscles, but from the severe pain induced by movement.

Prognosis.—Torticollis is one of the most obstinate of diseases, and only a small proportion of cases are cured. Sometimes it yields temporarily to treatment, but is exceedingly liable to recur. But while it is the source of great annoyance and discomfort it may exist many years without any danger to life or measurably shortening its duration.

Treatment.—The remedies are: *Electricity* (direct current), *Belladonna*, *Aconite*, *Arsenicum*, *Nux vomica*, *Lachnanthes*, and *Sulphur*.

TETANUS.

Tetanus is a disease characterized by persistent rigidity of the muscles of voluntary motion; usually affecting the muscles of the jaw first, and subsequently the greater part of the

muscles of the trunk and extremities. Usually it follows wounds or injuries, and hence is called traumatic tetanus. When arising from other causes it is distinguished as idiopathic tetanus. The traumatic is, as a rule, more severe and dangerous than the idiopathic variety.

Trismus nascentium, or tetanus of new-born children, is by some considered as a distinct variety, but as it has a traumatic origin, arising from wounds and consequent inflammation of the navel, it demands no special consideration.

Symptoms.—In some cases there are premonitions of an attack, such as chilliness, lassitude, and a sense of fatigue in the muscles. But in the majority of instances the invasion is sudden. At first the patient experiences a difficulty in opening the mouth, which increases until the jaws are firmly locked by the unyielding contraction of the muscles. When confined to the muscles of the jaw the affection is denominated *trismus* or *lock-jaw*. So firm is the contraction that the jaws cannot be forced apart, and liquid food can be taken only through the spaces between the teeth, or by passing it through the nostrils by means of a flexible tube in case deglutition is impossible.

The muscles of the face are often involved; the angles of the mouth are drawn upward and outward, giving rise to the expression called *risus sardonius*. The pharyngeal muscles are sometimes affected, interfering with deglutition.

Next to the muscles of the jaw and face, those of the trunk are affected; next, those of the legs; and lastly, those of the upper extremities. Generally the muscles of the eyes, tongue, and hands, are not involved.

When the muscles of the trunk are affected the abdomen becomes retracted and rigid, respiratory movement is impeded, the limbs are rigidly extended, and the whole body is sometimes so stiff that it can be raised by the head and feet without yielding.

To the persistent rigidity of the muscles is added spasm. At intervals the body is bent backward like a bow by the greater contraction of the posterior muscles, so that it rests upon the head and heels. This is called *opisthotonos*. Occasionally the body is bent forward (*emprosthotonos*) or sideways (*pleurothotonos*). The spasms occur at varying intervals and are attended with acute pain. They are excited by touching the body, exposure to a draught of air, contact of bed-clothes, mental emotions, or sudden noise. The spasms become more frequent and painful as the disease pro-

gresses; sometimes occurring once in ten or fifteen minutes, and lasting from one to three minutes. Pain at the pit of the stomach, piercing through to the back, is considered by some as pathognomonic, and is supposed to depend upon implication of the diaphragm.

Dyspnœa is generally present in fully developed cases of tetanus, caused by tonic contraction of the muscles of the thorax, or by spasmodic closure of the glottis, and manifested during the spasms by livid face, suffused eyes, and painful struggling for breath. The temperature of the body is increased, particularly during the spasms, the thermometer rising in some cases to 110°—usually ranging from 105° to 107°. The high temperature persists until some time after death. The circulation is not greatly disturbed. The mind generally remains unaffected to the last. Contraction of the pupil of the eye has been observed in the majority of cases. Constipation is usually present.

Death results either from exhaustion or from apnœa, not seldom from asthenia and apnœa combined. Rigor mortis very often occurs almost immediately after death; or, as has been asserted, the patient passes at once from the tetanic rigidity of the disease to the fixedness of death.

Causation.—Wounds are by far the most frequent cause of tetanus. Idiopathic tetanus results from exposure to cold and damp, particularly where the exposure occurs when the body is relaxed by heat and perspiration. Tetanus may follow any kind of injury, but is more liable to occur from punctured wounds; especially punctured wounds of the extremities.

Gross says: "The extent of the injury does not, so far as we are able to judge, exert any material influence upon the production of the disease, as it has been known to follow, on the one hand, the most insignificant scratch, and, on the other, the most frightful wound. In fact it may be assumed, as a general principle, that the danger of the occurrence of tetanus is, other things being equal, almost in direct ratio to the diminutive size of a wound."

The young suffer more frequently than the old, and the disease is more liable to occur in persons of a nervous, irritable temperament. Ill health, indigestion, grief, anxiety, depression of spirits, or whatever depresses the vital energies, predispose to an attack.

Diagnosis.—Traumatic and idiopathic tetanus are to be discriminated from hydrophobia and poisoning by strychnine.

In poisoning by strychnine the arms and legs are stretched stiffly out, the hands are clinched, and there is absence of trismus—the patient being able to open the mouth to swallow. In cases of poisoning, death occurs at a much earlier period than in traumatic tetanus.

Tetanus can generally be easily distinguished from hydrophobia. In the latter there is clonic contraction of muscles, absence of trismus, difficulty and dread of swallowing water from spasm of the pharynx and œsophagus, accumulation of viscid mucus in the fauces, expression of fear and anxiety in the face, extreme restlessness and excitement bordering on delirium.

In tetanus there is tonic contraction of the muscles, with periodical exacerbations, trismus, an expression in the face of pain and suffering, and risus sardonicus. The eyes are natural, and the intellect remains clear to the last.

Prognosis.—The prognosis depends upon the violence of the attack, the frequent recurrence of the paroxysms, their increasing severity, and the time which elapses after the wound or exposure to the development of the disease.

It is highly unfavorable if the attack comes on early, and the paroxysms recur with increasing violence, with decreasing intervals between. It is more favorable if the access is tardy, the paroxysms slight, with long intervals between; particularly if the patient is able to obtain some sleep.

In general the prognosis is very unfavorable. Dr. Gross states that in an experience of thirty-five years he has seen but two cases recover, and then only after a protracted and doubtful struggle. Of one hundred and fifty cases occurring during the late war there were only three or four recoveries. The duration of the disease is about four days.

Death occurs from exhaustion, from apnoea, or from arrest of the heart's action. When caused by apnoea it is due to spasm of the glottis or constriction of the thoracic walls.

Pathology.—With the exception that the nerves leading from the wound are in a state of inflammation no morbid appearances are detected which can be ascribed to the effects of the disease.

Lockhart Clark is of the opinion that degeneration of the cells of the cord is constant. He observes, that tetanus probably depends (first) upon an excessively excitable state of the gray nerve tissue of the cord, induced by hyperæmia, and morbid condition of the blood vessels, and the exudation and disintegration resulting therefrom, and (second) that the

spasms are the result of the persistent irritation of the peripheral nerves, by which the exalted excitability of the cord is aroused; and thus the cause which at first induced in the cord its morbid susceptibility to reflex action is subsequently the source of that irritation by which the reflex action is excited.

Billroth affirms that the results of his examinations are negative, and the majority of pathologists agree with his conclusions.

Treatment.—Not much praise can be given to any medicine for its efficacy in this most formidable malady. Those which promise the most beneficial effects are: *Nux vomica*, *Hydrocyanic acid*, *Belladonna*, *Rhus tox*, and *Cicuta virosa*.

NUX VOMICA.—Trismus; tetanic rigidity of the jaw; closure of the jaws, with complete consciousness; constriction of the pharynx; alternate trismus and opisthotonos; *paroxysms of rigidity induced by touch or noise*; dyspnœa from tonic contraction of thoracic muscles; feeble beating of the heart; pulse small and feeble.

HYDROCYANIC ACID.—Trismus; jaws firmly clenched in rigid spasm (Allen); dyspnœa, with contraction of both sides of the chest; constriction of diaphragm; violent tetanic convulsions lasting several hours (Hempel says *Hydrocyanic* will cure tetanic spasms with trismus); bloating of the face and neck; protrusion and glistening of the eyes; immobility and dilatation of the pupils; bluish red color of the face; collapse of pulse; rigidity of the limbs; the trunk is either bent backward or forward.

BELLADONNA.—Trismus nascentium; convulsive closing of the jaws, and contraction of the muscles of the face and extremities; great rigidity along the spine; painful constriction of the larynx and fauces, with choking sensation; sudden startings and drawing together of body and limbs; difficult respiration; dilated pupils; strabismus.

RHUS TOX.—Tetanus arising from injuries to ligaments, tendons, and aponeuroses; rheumatic tetanus; tetanus induced by continued exposure to wet and cold.

CICUTA VIROSA.—Trismus and tetanic convulsions from injuries to the head and spine. Deadly paleness of face; coldness of face and hands; dysphagia; constriction of larynx; spasms of the muscles of the neck and chest.

As the majority of patients die from exhaustion, resulting from excessive muscular contraction and pain, the necessity

of keeping up the strength of the patient by beef tea, wine, etc., is evident.

As palliative remedies, chloroform and other inhalations will be of valuable service in allaying the terrible pain and distress, and in preventing the recurrence of the paroxysms.

HYDROPHOBIA.

This terrible disease is caused by the absorption into the system of a specific poison contained in the saliva of the animals affected with it. The carnivora, among animals are most likely to be affected by it, and through their bite it is communicated to man—more especially from the bite of dogs. The disease has been known from the earliest times, and its symptoms described by authors from the time of Hippocrates down.

It was much more common in the earlier part of this century than at the present time. Wolves and foxes, as well as dogs, were remarkably subject to hydrophobia during that period, and frequently communicated the disease to cattle, horses, sheep, and goats. In 1830 so many people in England were bitten by rabid animals, or animals supposed to be rabid, that one surgeon declared that he had cauterized within a limited time four thousand bitten people. At the present time cases of hydrophobia are very rare, few physicians having an opportunity to observe the disease.

Hydrophobia in dogs has a period of incubation of from three to eight weeks. Occasionally the disease develops within a week, and in other instances is delayed twelve weeks.

Mr. Youatt, a standard authority, gives the early symptoms of the disease in dogs as follows: "In the greater number of cases there are sullenness, fidgetiness, and continual shifting of posture. When I have had opportunity I have generally found these circumstances in succession. For several successive hours, perhaps, he retreats to his basket or his bed; he shows no disposition to bite, and he answers the call upon him laggardly; he is curled up, and his face is buried upon his paws and his breast. At length he begins to be fidgety; he searches out new resting places, but he very soon changes them for others; he again takes to his own bed, but he is continually shifting his posture; he begins to gaze strangely about him as he lies on his bed; his countenance is clouded and suspicious; he comes to

one and another of the family, and he fixes on them a steadfast gaze, as if he would read their very thoughts: 'I feel strangely ill,' he seems to say, 'have you anything to do with it?' If we have observed a rabid dog at the commencement of the disease, we have seen this to the very life."

At last the animal takes to roving about, manifesting extraordinary endurance. It snaps at dogs, other animals, and men, when they come in its way; the pupils are dilated, the eyes watery and injected; the animal sees imaginary objects and springs at them with a dart. The saliva is usually profusely secreted, is viscid, and collects at the corners of the mouth. There is considerable fever and thirst. The animal usually drinks without difficulty, and dread of water is, therefore, no test of the disease in dogs and other animals. Emaciation, disposition to eat filth, straw, paper, etc., are generally present. Convulsions may or may not occur. Usually the animal sinks, becomes paralyzed, and dies from the fifth to the eighth day.

Symptoms in man, incubation.—The disease does not make its appearance until a considerable period has elapsed from the time of the bite. The period of incubation varies greatly in different individuals. It is rarely shorter than thirty days, and may extend to two or three years. Cases are on record, however, in which the disease has been developed within ten days; and on the other hand it has been asserted that hydrophobia has occurred in consequence of infection received ten years before the outbreak of the malady. The majority of cases are developed in from six to eight weeks.

After the reception of the injury the wound heals in the usual manner without any symptoms to indicate that the subtle poison is at work. The development of the disease is gradual. There may be abnormal sensations in the cicatrix, depression of spirits, anxiety, and some gastric derangement; distress at the epigastrium, and sometimes nausea and vomiting; shooting pains occur in the nerves in the region of the wound; the respiration is sighing and irregular; there is a feeling of constriction in the chest; the pulse becomes irregular; sleep is disturbed; either there is drowsiness or unnatural wakefulness; the skin is dry, the bowels constipated, and there are chills, followed by flashes of fever. The duration of this stage varies from two to four days.

In the second stage there is an increase of the symptoms already mentioned, and an appearance of others not pre-

viously present. The patient complains of a stiffness about the head and neck, together with a feeling of pain and constriction in the throat; the tongue is stiff and painful; articulation is indistinct, and a peculiar spasm of the muscles of the pharynx and larynx is excited by the attempt to drink water; even the sight of it, or the sound of its splashing in a vessel, is sufficient to induce spasm. The patient dreads the attempt to swallow on account of the pain and difficulty attending the effort. The spasm extends also to other muscles of the body, and in some instances becomes general. After the spasm the patient feels exhausted and weak, and is covered with perspiration. Delirium may or may not be present. If it is present, it assumes a wild and maniacal type. The heat of the skin becomes excessive; the pulse is quick and small; the countenance expresses intense anxiety, alarm and pain; the eyes are bright and wandering, avoiding shining objects, which cause distress, or even spasms; the mouth is filled with viscid saliva, which the patient attempts to eject, but which constantly accumulates.

As the disease advances all the symptoms increase in violence, and, in addition, the urine and feces are passed involuntarily, and tough, stringy mucus accumulates in the throat, impeding respiration. Death ensues in from one to four days, life being seldom prolonged beyond the third day.

Death may occur during a spasm, or as a result of profound exhaustion induced by the violent spasms, loss of sleep, and innutrition. In some cases it is preceded by profound coma.

Causation.—Inoculation by the saliva of a rabid animal has been supposed to be the only cause of the disease. Hammond asserts that it cannot be communicated by the saliva of one individual affected with hydrophobia to another; neither can dogs be inoculated by the saliva of a hydrophobic man. It is asserted, however, on good authority, that the disease may be induced by the bite of a dog not rabid, and several cases of the kind are on record.

Pasteur, the eminent French scientist, alleges, as the result of his investigations, that the agent in producing the disease is a germ contained in the saliva of the affected animal. Inoculation with the blood and other fluids of the body have failed to develop the disease.

Diagnosis.—In the first stage it is difficult to make a correct diagnosis. The symptoms may occur in persons who have been bitten by animals not rabid, and the fears of the

patient may simulate the early indications of hydrophobia. When the disease is fully developed it is not difficult to decide the question. Hysteria, fright, acute mania, and tetanus, may have some symptoms resembling an attack of hydrophobia, but a careful examination of the case, and the history of the patient, will prevent any mistaken diagnosis. In tetanus, trismus is a constant symptom, while it is not present in hydrophobia. Tetanus also manifests itself much sooner after the receipt of the injury; the spasms are tonic, and the mind clear; while in hydrophobia a longer interval elapses before the development of the disease, the spasms are clonic, and the mind more or less affected. In simulated hydrophobia, induced by fear of the disease, the symptoms come on soon after the infliction of the injury, and are usually unattended with fever.

Prognosis.—When the disease is once fully developed the prognosis is as unfavorable as possible. Flint says that “the disease has as yet baffled all the resources of therapeutics.” Hammond asserts that no well authenticated case of cure is on record. Raue says “the prognosis is a grave one. The virus once implanted spares neither childhood nor age.”

It is true, however, that a large majority of persons bitten by rabid animals escape. The saliva is rubbed from the teeth of the animal by the clothing and is not carried into the circulation. If the patient shows no symptoms after forty days have elapsed the probabilities of escape increase with each succeeding day. After two months the patient may be considered reasonably safe.

Pathological appearances.—Congestion of the brain, effusions into the arachnoid and ventricles, congestion of, and extravasation of blood into, the medulla, and congestion of the lungs and the mucous coat of the stomach, are the lesions most frequently observed.

Treatment.—Prophylactic treatment is of the highest importance, and should be attended to as soon as possible. A ligature should be immediately fastened above the wound to hinder the entrance of the virus into the circulation; and either excision of the wound or thorough cauterization should be performed. Excision should include all the tissues which have been injured. Mr. Youatt preferred cauterization with the nitrate of silver to excision. He used it over four hundred times and successfully in every case. So confident was he of its efficacy that he performed it four times upon himself. Other substances have been used, as *Arsenic*, *Nitric*

acid, *Chloride of Zinc*, and *Nitrate of Mercury*, etc. Amputation has been recommended in cases where there is extensive laceration of the tissues.

Although it is doubtful if any medication will avail after the disease is once developed, yet I mention some of the methods of treatment which have been tried or recommended:

Prolonged and sudden immersion in cold water; hot air and vapor baths; the hypodermic injection of *Curare*; free and prolonged inhalation of *Chloroform*; large fluid enemata; injection of warm water into the rectum (practiced by Magendie); use of the primary galvanic current long continued; and *Belladonna* in high potencies (recommended by Hahnemann, both as prophylactic and curative). These have all had their advocates as palliative or curative.

Hydrophobin is recommended by Herring, and *Cantharis* by Hartlaub and Trinks, as preventives.

Cantharis by Hartman, *Hydrophobin* and *Lachesis* by Herring, and *Stramonium* by Hahnemann, are recommended for the developed disease.

Raue quotes from a Russian journal that a patient in a frantic paroxysm ate a piece of the root of *Spiræa Ulmaria* and recovered.

CHAPTER IX.

MUSCULAR ANÆSTHESIA, VERTIGO, WRITER'S CRAMP, ALCOHOLISM, DELIRIUM TREMENS, AND INSOLATION.

MUSCULAR ANÆSTHESIA—DIAGNOSIS—PROGNOSIS. VERTIGO—CAUSATION—PROGNOSIS—TREATMENT. WRITER'S CRAMP—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT. ALCOHOLISM DELIRIUM TREMENS—SYMPTOMS—OINOMANIA—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT—SPECIAL TREATMENT. INSOLATION—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—MORBID ANATOMY—PREVENTION—TREATMENT.

MUSCULAR ANÆSTHESIA.

MUSCULAR ANÆSTHESIA consists in a loss of the feeling of muscular action, attended with irregularity, sluggishness, and diminished force of voluntary movement, but generally unattended with any loss of cutaneous sensibility.

The symptoms attending this affection are the following: Awkwardness and clumsiness in performing voluntary movements of the limbs or face. The patient can only do what he wishes by carefully fixing his attention upon it, otherwise he fails; lets objects slip out of his grasp; stumbles and tangles his legs together, exhibiting deficient power and want of co-ordination. In the dark he is unable to execute any movement; the muscles are deficient in sensibility; the patient does not know the position of his limbs without the aid of sight; they exhibit no sensibility when pinched, nor when acted upon by the electric current. A current whose force can hardly be borne by a healthy person excites no pain although contraction may be vigorous.

Muscular anæsthesia may exist alone, but commonly it is associated with other lesions of the nervous centers, as paraplegia, locomotor ataxia, spinal congestion or inflammation, and softening of the spinal cord.

Concerning its causes but little is known. It is occasionally induced by exposure to cold, and is frequently associated with hysteria.

Diagnosis.—It needs to be discriminated from paraplegia, hemiplegia, locomotor ataxia, and hysteria.

From paraplegia it may be distinguished by the fact that power is not lost although motion is imperfectly and clumsily executed. There is no emaciation nor loss of power in the bladder or rectum.

From hemiplegia it can be diagnosed by the absence of intellectual change.

Muscular anæsthesia closely resembles locomotor ataxia. The absence of the sharp, darting pains, priapism, and affections of the sight—characteristic of the latter affection—constitute diagnostic points.

From hysteria it is distinguished by the general symptoms and the previous history of the patient.

Prognosis.—The prognosis is uncertain, depending in a great measure upon the nature of the associated affections.

The application of the Faradic current is the only therapeutic agent which has proved to be of any value.

The current should be used daily, and its use be continued persistently and patiently until improvement begins, or until all hope must be abandoned.

VERTIGO.

Vertigo is the sensation of moving, or the perception of moving objects, when no motion of the person or of objects exists.

There are two forms of vertigo. One in which the patient complains of whirling or reeling himself, other objects remaining motionless; the other in which surrounding objects seem to be in motion, either moving around in circles, or swaying and undulating beneath and about.

On attempting to walk the patient feels impelled forward, backward, or sideways; finds it difficult to maintain his equilibrium, and is in constant apprehension of falling down or against objects. Generally vertigo is felt only on movement, and particularly when rising from a recumbent position, but may occur when sitting or lying. Occasionally in conjunction with vertigo are perversions of the senses. Vision is obscured; the sense of hearing is diminished or preternaturally acute, with a great variety of sounds, as blowing, ringing, hissing, etc.

Causation.—The causes are imperfect digestion, functional derangement of the liver, dyspepsia, menstrual de-

rangements, cerebral diseases, atheroma of the cerebral arteries, toxæmia, functional and organic disease of the heart.

Prognosis.—The prognosis depends upon the cause. If due to organic disease of the heart, lesions of brain tissue, or weakness of the cerebral arteries, the prognosis is unfavorable; but if connected with functional disorder the prospect of recovery is favorable.

Treatment.—The physician should always endeavor to trace the attack to its cause, and having found it attempt its removal.

The remedies most useful in vertigo are: *Aconite*, *Agaricus*, *Aletris*, *Belladonna*, *Bryonia*, *Cactus*, *Cal. carb.*, *Cinchona*, *Cicuta*, *Cocculus*, *Conium*, *Gelsemium*, *Lilium tigrinum*, *Moschus*, *Nux moschata*, *Nux vomica*, *Oleander*, *Phosphorus*, *Physostigma*, *Selenium*, *Sepia*, *Stramonium*, *Ustilago maidis*, and *Veratrum viride*.

ACONITE.—Vertigo from congestion of the brain, hyperæmia, or violent mental emotion, as anger; vertigo from falls or contusions; vertigo on raising the head, or on rising from a recumbent posture, with inability to stand; vertigo from sudden stoppage of the menstrual flow.

AGARICUS.—Vertigo when walking in the open air; reeling as if intoxicated; sensation as if *room* and *objects* were whirling around; tendency to fall forward; vertigo from strong excitement or unusual mental exertion; vertigo from over-use of the eyes, with *muscæ volitantes* and vibrating spectra.

ALETIS.—Vertigo with excessive nausea from debility of the digestive organs; vertigo followed by fainting; vertigo after protracted sickness.

BELLADONNA.—Vertigo with obscuration of sight, as of white vapor before the eyes; tendency to fall backward or to the left side; vertigo with sensation of revolving; staggering and reeling gait; rush of blood to head and face; flashes of light before the eyes; vertigo aggravated when in the room but relieved by being in the open air; epileptic vertigo; better when lying, worse on rising to a sitting or standing posture.

BRYONIA.—Vertigo as though all objects were reeling; vertigo as if *intoxicated*; vertigo on rising from a chair, disappearing on moving about.

CACTUS.—Vertigo from *cardiac disease*; vertigo with flushed face and great excitability; feeling of pulsation in the brain.

CALCAREA CARB.—Vertigo with reeling when walking in the open air, and when turning the head quickly; vertigo soon after rising, with nausea; roaring in the ears, with sensation of impending unconsciousness; vertigo during the climacteric, with sudden flashes of heat; vertigo on stooping, or ascending stairs; vertigo brought on by sedentary life with too luxurious living.

CINCHONA.—Vertigo from *loss of blood or fluids* of the body; after *hemorrhages; exhausting diarrhœa*; from anæmia, with fainting, weakness of sight, and ringing in the ears.

COCCULUS.—Vertigo from the *motion of carriages*, railroad cars and vessels, preceded by nausea; hysterical vertigo and headache, aggravated by noise, talking, or motion; vertigo with a feeling of intoxication or stupefaction; vertigo on sitting or standing—must lie down; vertigo with *headache* as if the eyes would be torn out; vertigo with nausea and falling down unconscious.

CICUTA.—Vertigo, on rising from bed, as if everything was moving from side to side, or *approaching* and then *receding*; vertigo with reeling; falling on stooping; vertigo from concussion of the brain.

GELSEMINUM.—Vertigo with confusion of ideas, dilated pupils, dimness of vision, sensation of reeling when moving about, dizziness, *inability to move* on account of *muscles refusing to obey the will*; vertigo from the effects of intense solar heat, with confused perception, swimming sensation of the head, and mistiness of the intellect.

LILIUM TIGRINUM.—Vertigo when walking; feeling as if intoxicated; staggering, with fear of falling; worse in close warm room, better in fresh air; vertigo accompanying uterine affections, especially *dysmenorrhœa*.

MOSCHUS.—Vertigo of hysterical subjects; vertigo with stupefaction; vertigo with loss of consciousness; vertigo on stooping, which disappears on rising; vertigo with a sensation of whirling violently, so that even the air is felt on the face; vertigo with nausea so that the patient has to lie down; vertigo, nausea, and vomiting at the same time; vertigo with a drawing, throbbing headache in the occiput; vertigo as if everything were moving in a circle, at first slowly, then faster and faster; dizziness of the head, with pressure upon the vertex.

NUX MOSCHATA.—Vertigo as if intoxicated; dizziness as if intoxicated and sleepy; vertigo with reeling to the left;

reeling sensation, with feeling as if the forehead would be pushed out, and as if it were too large.

NUX VOMICA.—Vertigo in connection with *gastric derangements, dyspepsia, persistent constipation*, etc.; vertigo after eating and drinking to excess; vertigo worse after dinner, on stooping or rising; vertigo brought on by use of *alcoholic drinks, coffee*, or by smoking or *mental exertion*; vertigo with feeling as if the brain were turning in a circle, with momentary loss of consciousness; vertigo with a whirling sensation, with eructations of gas; dizzy reeling while walking, as if one would fall to the side or backward.

OLEANDER.—Whirling vertigo and tottering of the lower extremities as from weakness; vertigo with objects seeming to run together, with *flashes before the eyes*; giddiness and double vision when looking down; vertigo when rising from a recumbent posture.

PHOSPHORUS.—Vertigo from *anæmia*; vertigo with staggering while walking, as if intoxicated; vertigo in the morning, constantly increasing, and worse from stooping; vertigo with feeling of fullness in the head, as from hyperæmia; vertigo on rising from a seat, with obscuration of sight; vertigo as if everything were turning around; vertigo resulting from *excessive venereal indulgence*.

PHYSOSTIGMA.—Vertigo with confusion of ideas, staggering, and loss of strength; vertigo with constrictive feeling in the head, worse when walking or reading.

SELENIUM.—Vertigo as if intoxicated, staggering gait, faintness, pale face; vertigo while riding; vertigo with undulating sensation in the brain.

SEPIA.—Vertigo with painful confusion in the head; vertigo, while walking, as if every object were in motion; vertigo, in the morning before rising, as if every object in the room were in motion; vertigo with palpitation of the heart; vertigo and staggering, *with flushes of heat*; vertigo while looking upward; vertigo during the *climacteric*, with frequent *flushes of heat*.

STRAMONIUM.—Vertigo when walking in the dark, with staggering and falling down at every attempt to walk; vertigo with headache and faintness; staggering vertigo with obscuration of vision.

USTILAGO MAIDIS.—Vertigo during *climacteric*, with too frequent and profuse menstruation.

VERATRUM VIRIDE.—Vertigo from hyperæmia of the brain,

with headache, fullness in the head, throbbing of the carotids, great sensitiveness to noise, and buzzing in the ears.

Lilienthal sums up the characteristic indications for remedies as follows:

Vertigo—

In the morning, *Calc.*, *Nux*, *Rhus*, *Phos.*, *Nat. mur.*

In the evening, *Bell.*, *Puls.*, *Cyclam.*, *Sepia*, *Zinc.*, *Lachesis*.

When lying down, *Puls.*, *Cyclam.*, *Arsen.*, *Aurum*.

When rising up, *Nux*, *Rhus*, *Lachesis*, *Conium*.

When walking, *Puls.*, *Lyco.*, *Conium*, *Phos.*, *Stram.*

When stooping, *Calc.*, *Bryonia*, *Sepia*, *Spigelia*.

With an empty stomach, *Phos.*, *Iodine*, *Calc.*, *China*.

After eating, *Calc.*, *Nux*, *Nat. mur.*, *Phos.*, *Sepia*, *Lyco*.

After sleeping, *Phos.*, *Sepia*, *Nux*.

In the air, *Nux*, *Silicia*, *Cocculus*, *Nux mos.*

In the room, *Silicia*, *Agar.*, *Arsen.*, *Puls.*

Before the menses, *Calc.*, *Puls.*, *Sepia*, *Veratrum alba*.

During the menses, *Phos.*, *Hyos.*, *Graph.*, *Lyco.*, *Cimicifuga*.

After the menses, *Nux*, *Phos.*, *Graph.*

Better from motion, *Rhus*, *Puls.*, *Capsicum*, *Cyclam.*, *Lyco*.

Better from rest, *Nux*, *Nat. mur.*, *Bell.*, *Colchicum*.

Revolving vertigo, *Phos.*, *Nux*, *Bry.*, *Arnica*.

Stupefying vertigo, *Calc.*, *Silicia*, *Bell.*, *Hyos*.

Staggering vertigo, *Acon.*, *Rhus*, *Nux*, *Plat*.

With trembling and uneasiness, *Phos.*, *Calc.*, *Ign.*, *Ar-senicum*.

With fainting, *Phos.*, *Nux*, *Nat. mur.*, *Arsen.*, *China*.

With vomiting, *Nux*, *Ipecac*, *Verat.*, *Ars.*, *Puls*.

With inclination to fall forward, *Phos.*, *Graph.*, *Cicuta*, *Spig.*

With inclination to fall backward, *Rhus*, *Bell.*, *Nux*, *Bry.*, *China*.

With inclination to fall sideways, *Silicia*, *Sulph.*, *Ipecac*.

In general, the remedies are:

Vertigo from gastric derangements, *Aletris*, *Nux vomica*, *Ipecac*, *Pulsatilla*, *Cinchona*, and *Phosphorus*.

Vertigo from nervous affections, *Agaricus*, *Cactus*, *Cicuta*, *Cocculus*, *Conium*, *Moschus*, *Nux moschata*, *Oleander*, *Physostigma*, and *Stramonium*.

Vertigo from congestion, *Aconite*, *Belladonna*, *Bryonia*, *Gelseminum*, and *Veratrum viride*.

Vertigo from debility, *Cinchona*, *Cal. carb.*, *Phosphorus*, and *Nux vomica*.

Vertigo from irritation of the reproductive organs, *Belladonna*, *Lilium tigrinum*, *Moschus*, *Phosphorus*, *Sepia*, and *Ustilago maidis*.

WRITER'S CRAMP.

A nervous affection, characterized by the occurrence of spasm of certain muscles when the attempt is made to execute certain complicated movements which are acquired by practice and education, as the acts of writing, telegraphing, playing on the violin or piano, sewing, etc.

Symptoms.—The symptoms make their appearance insidiously. At first there is a slight stiffness of the fingers toward the close of the day's labor, disappearing with rest; then unsteadiness of the muscles concerned in the work. The writer produces a scrawl now and then, the musician strikes a false note, the seamstress pricks her fingers. An uncomfortable burning sensation is often experienced in the affected muscles, passing off after a few hours rest. At first the difficulty can be overcome by a strong effort of the will, but as the disease progresses, continued effort is followed by cramp, twitching of the muscles, or tremor, and the movements desired become impossible. Yet when the writer or player attempts other movements he experiences no difficulty. The writer can play the violin, while the musician can write, without difficulty. It is only the accustomed movement which becomes impossible of performance. As soon as the movements are given up all unpleasant symptoms cease, but the moment the attempt to perform the special act is renewed, they return. Attempts to use the left hand and arm are successful for a short time, but soon the same difficulty is experienced as with the right. An attempt to use an instrument devised to remedy the difficulty in the hand is not infrequently followed by cramps and pain in the muscles of the forearm.

When the disease has existed for some time the attempt to write is followed by pain, cramp, stiffness of the neck, and much general discomfort. In some cases there is also a feeling of numbness, slight loss of power, paresis, or jactitation. Occasionally the disease is associated with torticollis, strabismus, and palpitation.

Causation.—Over use of the affected muscles, mental worry and anxiety, and injury to the arm, have been assigned as causes. But the great majority of those who overwork, who suffer anxiety or injury, do not have writer's cramp. It is doubtful if the cause can be ascertained.

Diagnosis.—Writer's cramp is not liable to be mistaken for any other affection. Lead palsy and wasting palsy render certain acts impossible, but the loss of power proves a hindrance to all action, general as well as special. The sufferer from lead or wasting palsy can do one act no more perfectly than another, while the converse is true of the disease under consideration.

Prognosis.—The prognosis is favorable provided that sufficient rest can be given.

Pathology.—But little is known concerning the pathology of the disease. It is conjectured that there is loss of co-ordinating power, as well as innutrition of some of the nerves or muscles concerned in the complicated movements required in writing, playing on instruments, etc.

Treatment.—So far, rest seems to be the only therapeutic agent deserving of mention. At the outset it may accomplish a cure; later, it may only be able to relieve.

The remedies which promise the most favorable results are: *Gelsemium*, *Hyoscyamus*, *Ignatia*, *Stannum*, *Zincum*, and *Phosphide of Zinc*.

The attention of the patient should be directed to the necessity of avoiding cramped or uncomfortable positions of the body while writing or playing. The wrist, either in writing or manipulating the telegraph key, should not be allowed to rest on any hard substance.

ALCOHOLISM.

(*Synonyms*, MANIA A POTU, DELIRIUM TREMENS.)

Alcoholism is a nervous disease induced by the continued and excessive use of alcoholic beverages, characterized by muscular tremor and weakness, sleeplessness, hallucinations of sight, and impaired digestion. In severe cases there is paralysis of sensation and motion, delirium, convulsions, coma, and (in the chronic form) general degeneration of the tissues of the body.

Alcoholism may be considered under two heads; namely, the more lasting and chronic symptoms induced by long use

of alcohol, and acute alcoholism, or, as more commonly designated, delirium tremens.

The symptoms of chronic alcoholism are muscular inquietude or tremor; restlessness at night after going to bed; a continual turning from side to side, with inability to sleep; nervous prostration worse after a restless night; buzzing in the ears; headache; momentary vertigo; *muscæ volitantes*. The mind exhibits uncertainty of purpose and will. Digestion is weak, the patient suffering from nausea or vomiting, usually in the morning. The tongue may be clean and moist, or dry and parched, or thickly furred. Often the breath is peculiarly offensive.

The most inveterate and persistent drinkers may never develop any more specific symptoms than those already enumerated, but live on until worn out by general impairment of nutrition or cut off by some intercurrent disease. A certain proportion, however, suffer from attacks of acute alcoholism, more generally designated delirium tremens.

DELIRIUM TREMENS.

It was formerly believed that an attack of delirium tremens was induced by a cessation of the use of the accustomed beverage. It had often been observed that for two or three days prior to the attack the patient had drunk nothing, and the exhaustion produced by the loss of the stimulant was the attributed cause of the subsequent symptoms. Dr. Ware, of Boston, pointed out the fallacy of those conclusions. From an analysis of one hundred cases, he proved that the cessation of drinking (where this occurs) is in fact produced by a feeling of revulsion to strong liquors, which is a part of the early symptoms in many cases; and, on the other hand, that very many patients do not leave off drinking at all, but the delirious attack supervenes in the midst of a debauch. This observation has been confirmed by the experience of many practitioners.

Symptoms.—Sleeplessness is usually the precursory symptom of an attack. The patient for several days finds himself either unable to gain any sleep, or has snatches of restless, unrefreshing slumber, disturbed by frightful dreams and visions. Then come hallucinations of sight and hearing; he sees rats and mice about him; snakes seem to be twining their folds around his limbs, and he makes violent efforts to throw them off; he hears voices of men plotting mischief

against him, and wishes to fly from the threatened evil. There is often busy delirium; constant talking or muttering in a rambling, incoherent manner; the hands are in incessant motion; the features constantly twitching; the patient is unable to lie or sit still; he wants to be continually changing his position. There is seldom any desire to harm himself or others, and he can generally be easily controlled. The face is sometimes pale, but more often flushed and wild-looking; the skin is moist and clammy; the tongue moist, and covered with a thick, whitish fur; the pulse quick and soft. The appetite is usually completely gone, the patient eating nothing for days. In favorable cases, after three or four days, the patient falls into a sound slumber, which lasts from eight to twelve hours—awakening from it very feeble but rational. Occasionally, however, sleep is followed by the recurrence of the symptoms with increased severity and a state of increased prostration, speedily followed by death.

In cases about to terminate fatally, delirium and sleeplessness continue; subsultus tendinum, great exhaustion, coma, or convulsions, follow. The temperature rises to 106 or 107, the pulse is feeble and irregular, the extremities become cold, and the patient dies completely exhausted. Death most commonly takes place between the third and seventh days.

Oinomania.—Another variety of acute alcoholism is termed oinomania, a species of monomania developed in individuals having a hereditary tendency to insanity, by intoxication. Under the influence of liquor such persons indulge in all sorts of frantic and foolish acts. These paroxysms of folly and recklessness last a week or more, and then cease, to be renewed at variable intervals of from two to twelve months. Between the paroxysms the patient may lead a perfectly regular and unobjectionable life, but the passion for strong drink, and accompanying follies, breaks out again, sometimes ending in permanent insanity.

The term dipsomania is sometimes used to express the periodical craving for intoxicating liquors which seems to be hereditary with many individuals. It appears to be the most incurable form of intoxication, few being able to long resist the intense craving for drink which, at quite regular intervals, possesses them.

Diagnosis.—Some of the symptoms of chronic and acute alcoholism are common to several other diseases; as, paralysis

agitans, locomotor ataxia, hysteria, and narcotism. The general group of symptoms of alcoholism will, however, serve to discriminate the latter. Insomnia, restlessness, hallucinations, tremor, complete loss of appetite, together with the previous history of the patient, make the diagnosis of alcoholism tolerably certain.

Prognosis.—The prognosis is generally favorable; especially if the constitutional vigor is not seriously impaired. A favorable or unfavorable prognosis is based upon the ability of the patient to take and retain nourishment, and the occurrence of sleep before the patient is worn out from exhaustion.

The prognosis is bad when the patient's constitution is feeble, his digestion and assimilation weak, the kidneys or liver diseased, and he has taken inordinate quantities of alcohol.

Pathology.—The morbid influence of alcohol is seen in the mucous surfaces, in permanent congestion of the blood vessels, degeneration and atrophy in the glandular structures, and atrophy of brain tissue. It is also highly probable that a considerable portion of the degenerative influence of alcohol is due to chemical interference with the oxydation of the blood and tissues of the body; the diversion of the inspired oxygen from its natural channels, causing diminished activity of elimination of carbonic acid, urea, chlorine, and of the acids and salts of the urine.

Treatment.—The treatment of delirium tremens is to be directed to the accomplishment of two things: To induce sleep, and to save the patient from fatal prostration by supporting the strength with stimulating and easily assimilated food.

The remedies which are used by the regular school are: *Opium*, *Morphia*, *Bromide of Potash*, *Digitalis*, *Hydrate of Chloral*, and *Chloroform* by inhalation and internally. Of these, BROMIDE OF POTASH, or HYDRATE OF CHLORAL, in 20 grain doses, given once in 2 hours until sleep is obtained, have proved to be the most effective remedies. The injudicious use of OPIUM, MORPHIA, and CHLOROFORM, has been too often followed by cardiac paralysis and death to render their indiscriminate administration prudent or safe.

The propriety of giving wine, ale, or spirits, to patients in whom an attack has followed abstinence for three or four days, has been discussed. It is alleged that alcohol in diminishing quantities does seem to aid in the cure of

delirium tremens. It is isopathic, if not homœopathic, to the disease.

Special treatment.—The treatment of chronic alcoholism varies according to the severity and gravity of the symptoms. Abstinence from intoxicating drinks is to be enforced; the diet should be nutritious, easily assimilated, and in such quantity as the stomach can readily digest.

The remedies are: *China*, *Nux vomica*, *Cypripedium*, *Belladonna*, *Hyoscyamus*, *Coffea*, *Cannabis indica*, *Gelseminum*, *Opium*, *Stramonium*, *Arsenicum*, *Kali brom.*, *Phosphorus*, and *Tartar emetic*.

NUX VOMICA.—Loss of consciousness; frightful visions; constant changing of position, with great anguish, sleeplessness, or restless, unrefreshing sleep with constant startings and frightful dreams; trembling of the limbs; loss of strength; aversion to food.

HYOSCYAMUS.—Illusions and hallucinations; incessant talking; constant muttering; unintelligible talk; tries to escape from imaginary pursuers; sleeplessness, with great restlessness and anxiety; tremor of the limbs; hiccough.

BELLADONNA.—Loss of reason, with delirium, or anxiety and restlessness, with incessant walking about; busy delirium; wants to be doing something continually; visions of mice, rats, etc.; stammering speech; incessant smiling; dryness of mouth and throat.

COFFEA.—Great excitability; sleeplessness; restless moving about; quick pulse; tremulousness of the hands.

CANNABIS INDICA.—Incoherent speech; exaggerations of time and distance; sudden transitions from one emotion to another.

GELSEMINUM.—Raue says that GELSEMINUM has produced sleep after *Hyoscyamus* and *Opium* have failed. There is nothing in its pathogenesis, however, to indicate its use.

STRAMONIUM.—Restless changing of place; uncertain, wandering look; fear, with desire to run away; delusions of sensation (as, for example, a feeling as if the body were in two distinct parts); frightful visions of animals constantly springing up around him; staring eyes, with enlarged pupils; tremor of the limbs.

CHINA.—Great debility; anæmia; tendency to anasarca; lienteric evacuations.

ARSENICUM.—Debility; cachectic condition; great restlessness; fear of solitude, of spectres, or of robbers; desire to

hide; trembling of the limbs; nausea and vomiting; red and dry tongue; thirst; watery diarrhœa.

PHOSPHORUS.—Cirrhosis of the liver; prostration; mental and physical exhaustion.

OPIMUM.—Frightful visions; manifestations of great fear; stupor; fixed, glassy eyes; stertorous breathing; trembling of the extremities; twitching of the muscles of the face.

PULSATILLA is valuable when recovering from a debauch, with loss of appetite, offensive breath, tongue heavily coated with white fur, nausea, and offensive eructations.

Prof. John Ellis, in a lecture before his class at Cleveland in 1858, narrated an instance of the speedy cure of a severe case of delirium tremens from the administration of 5 drop doses of sherry wine given at intervals of half an hour.

INSOLATION.

(*Synonym, SUN-STROKE.*)

A disease of the nervous system caused by exposure to great heat, or to the direct rays of the sun; especially when to heat is superadded tight-fitting and too thick clothing, exhaustion, or the effects of alcoholic stimulation.

Formerly the disease was much more common than at present among soldiers on account of the unfitness of their dress and accouterments. Tight-fitting uniforms, stiff leather stocks, and heavy caps weighted with brass ornaments, formed the costumes of American and European troops.

Many frightful examples of heavy losses of life from intense heat, in camp, on the march, in crowded transports, and in battle, are recorded in military medical annals. During the Revolutionary War, the battle of Monmouth was fought on a very hot day, and many soldiers of both armies perished from sun-stroke.

In the summer campaigns of the British troops in India heat destroyed nearly as many lives as the enemy.

Symptoms.—Faintness, thirst, suppression of perspiration, great heat and dryness of the skin, and prostration, are usually the first symptoms. Frequent micturition is also a precursory symptom. The pulse is either quick and full, or thin and feeble. Then follows vertigo, nausea, extreme debility, and congestion of the conjunctiva—the patient speedily passing into a state of coma. The respiration is quick, noisy, and labored; the pupils contract and become insensible to light;

the pulse is feeble and irregular; the countenance becomes livid, and death soon follows.

In many cases, and especially when the disease occurs during active exertion, the patient suddenly falls insensible, gasps two or three times, and is dead. This form of insolation is described by Dr. Morehead as "the cardiac." Occasionally convulsions precede death.

Causation.—The predisposing causes are tight-fitting, thick clothing, compression of the chest or neck by straps or clothing, exhaustion from prolonged exertion, overcrowding, impure air, and intemperance. The direct exciting cause is continued exposure to heat. In civil life sun-stroke is much more common in densely populated towns, rarely occurring in the country. New York has in some heated terms as many as sixty cases in a day. There seems to be a difference of opinion whether extreme dryness or humidity of the air tends most to increasing the effects of heat. Sun-stroke has been observed in both conditions.

Diagnosis.—The disease may be mistaken for apoplexy; some of the symptoms of sun-stroke resembling those of the former affection. There are, however, several points of difference. In apoplexy the pulse is slow and full, the pupils dilated, the breathing slow and irregular, the skin generally cool and moist. In sun-stroke the pulse is quick and sharp, the pupils at first contracted, the breathing rapid and noisy, the skin dry and hot.

Prognosis.—Statistics show sun-stroke to be very fatal, the death rate being about thirty per cent. Unfavorable symptoms are: continued insensibility, intense heat and dryness of the skin, congestion of the ocular conjunctiva, tumultuous irregular action of the heart, feeble fluttering pulse, and livid skin.

Morbid anatomy.—The most constant anatomical changes are: fluid condition of the blood, congestion of the cerebral vessels, and great congestion of the lungs. The pathological conditions relate to depraved function of the cerebro-spinal and sympathetic nerve system.

Prevention.—The best means of preventing attacks of sun-stroke are: frequent bathing, temperance in eating, abstinence from intoxicating beverages, free use of water when exposed to the heat of the sun, light loose clothing, and wet cloth or thick green leaves inside the hat. If there should be any sense of pain or tightness about the head, dizziness, vertigo, or faintness, the sufferer should retire into the shade.

or some cool place, lie down and have cold water poured gently upon the head until relieved. As a sudden check to perspiration is one of the first symptoms of impending sun-stroke, its free flow should be encouraged while exposed to heat by freely drinking of cool water.

Treatment.—When summoned to a patient suffering from sun-stroke the first thing is to remove him to a cool place, remove the clothing from the upper part of the body, and drench the head, neck, and chest, with cool water. Cold tea or water may also be given freely to drink.

It is recommended by some that, when practicable, the patient should be enveloped in a wet sheet and fanned vigorously. The one cooling the intensely hot skin, the other aiding in the re-establishment of respiration. An enema of cold water is also of great assistance in reducing the temperature. If, however, the skin is cold and clammy, with great prostration of the vital powers, cold applications are inadmissible. A cautious application of ammonia to the nostrils is often beneficial. Dr. Barelay recommends inhalations of chloroform in sun-stroke attended by convulsions.

The remedies are: *Gelseminum*, *Veratrum viride*, *Belladonna*, *Glonoine*, *Camphor*, and *Opium*.

GELSEMINUM is especially indicated for the premonitory symptoms: feeling of exhaustion and faintness, dizziness, sensation of reeling, and a feeling of fullness in the head. If administered promptly it will speedily relieve the patient.

VERATRUM VIRIDE.—Fullness in the temples, with throbbing of carotids; sensitiveness to sound; blurred, or double vision; dilated pupils; hot skin.

BELLADONNA.—Congestion of blood to head; feeling in the brain of pressure from within outward; fullness in the ears; flashes before the eyes; vertigo; feeling as if falling forward; great heat of skin.

GLONOINE.—Violent throbbing and beating in the temples, followed by loss of consciousness; relaxation of muscles; sensation of constriction around the body; vertigo.

CAMPHOR.—Prostration; sinking of the vital forces; dyspnoea; irregular pulsation; sighing respiration; coldness of the body, temperature below the normal standard; tremors and cramps.

OPIMUM.—Unconsciousness; comatose condition; pupils contracted; heavy, labored breathing; pulse slow and full.

AMYL NITRATE.—Dull confusion of head; feeling as if intoxicated; feeling of fullness in the head; eyes staring and

suffused; tumultuous beating of the heart; dyspnœa, and feeling of constriction in the chest; feeling of debility and prostration. It may be administered by inhalation, using the first decimal dilution.

Other remedies are: *Aconite*, *Lachesis*, *Natrum carb.*, *Carbo veg.*, and *Arsenicum*.

CHAPTER X.

HYPOCHONDRIASIS AND HYSTERIA.

HYPOCHONDRIASIS—MORBID ANATOMY AND PATHOLOGY—SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT. HYSTERIA—CAUSATION—SYMPTOMS—SYMPTOMS OF THE HYSTERIC PAROXYSMS—PATHOLOGY—DIAGNOSIS—PROGNOSIS—TREATMENT.

HYPOCHONDRIASIS.

HYPOCHONDRIASIS is a disease of the nervous system, characterized by mental depression and a firm belief on the part of the patient that he is the victim of some serious bodily ailment. His conviction of the reality of the imaginary disease is so strong that he describes the symptoms minutely and with great prolixity of detail. Hypochondriasis may also result from some real organic disease acting as a predisposing cause upon an irritable nervous system.

The name has descended to us from the earliest times,—meaning under the cartilages,—and derives its significance from the belief of the ancient writers that the morbid sensations characteristic of the malady had their origin in the viscera which lie under the xiphoid cartilage and below the diaphragm. The disciples of Galen held that the symptoms were due to the presence of black bile in the liver. This view was held until Willis, in 1876, maintained that hypochondriasis was a disease of the nervous system—but attributed its cause to impurity of the splenic blood.

Morbid anatomy and pathology.—Morbid anatomy reveals nothing which can throw any light upon the nature of the disease. It is probable that there are some changes in the minute anatomy of the nervous centers to account for the symptoms, but the nature of such changes has not yet been determined.

Symptoms.—These are almost wholly subjective; objective symptoms being almost entirely wanting. A writer describes hypochondriasis as consisting prominently of an exaggerated egotism: "The hypochondriac is ever writhing

under the petty despotism of an imaginary evil. He fulfills all his duties naturally, and generally with amiability, for a season; but he is morbidly sensitive of the opinions and actions of other men, while he is also constantly tormenting himself by dwelling upon his own miserable condition."

The most characteristic feature of the disease is this: That without sufficient reason the patient concentrates his whole attention on some organ of his body, and believes it to be seriously diseased. He can think of nothing else; his imagination constantly conjures up the dangers which he incurs; he asks everyone's advice; he consults with physicians; he examines medical works;—and all he sees and hears but confirms his fears.

With this absorption of the patient's thoughts upon his condition there is often a depression of spirits—a feeling of despondency and hopelessness. At other times there is suspiciousness and irritability, with sudden changes from loquacity and high spirits to moody silence.

The ailments most likely to be assumed by the hypochondriac are those belonging to the stomach, liver, and heart. Dyspepsia and heart disease are (if I may use the expression) *favorite* complaints. In many instances the presence of flatulence from collections of gas in the stomach and bowels, together with coated tongue, foul breath, capricious appetite, and constipation, give some color to the assertions of the patient that he is a great sufferer from dyspepsia. Other morbid sensations are, heightened sensibility of the skin, and a singular, indescribable feeling of pain or uneasiness in the heart, stomach, bowels, or head. Each morbid sensation leads the sufferer to believe that he is the victim of some new disease.

In extreme cases the patient entertains absurd fancies that some living thing is writhing around in his intestines (I am inclined to think that many of the stories of living reptiles existing in human bodies, with which we are so often entertained, originate in the fancy of hypochondriacs), or that he is made of glass and is liable to be broken, or, again, that he is light as a feather and must keep out of the wind lest he be blown away. In short, no fancy is too preposterous to be entertained.

Diagnosis.—It is often difficult to decide between hypochondriasis and the maladies it simulates, especially if the latter are functional disorders, and careful discrimination is necessary to avoid errors.

The family history of the patient will generally aid somewhat in forming an opinion. A well marked history of mental derangement in the family indicates the probability that the symptoms of the patient are imaginary; while the absence of insanity would indicate that the case was not hypochondriasis.

The age and sex of the patient should be considered. The disease belongs almost exclusively to middle age, and is far more common to men than women, hysteria appearing to take its place with the latter. But as hypochondriasis occasionally affects the female sex it is difficult to diagnose between it and hysteria. Hysteria begins about the time of puberty or the menopause, and is generally characterized by occasional paroxysms of hysteric convulsions. Hypochondriasis is seldom observed except in middle life, and in persons whose family history shows tendency to mental derangement.

It is difficult to discriminate between melancholia and hypochondriasis. There are many symptoms common to the two complaints. The tendency to insanity in the former, and the absence of such tendency in the latter, constitute one point of difference.

Prognosis.—The prognosis is doubtful. Much depends upon the age and habits of the patient, the duration of the disease, hereditary tendency to insanity, and condition of the organs of digestion. The younger and more vigorous the patient, and the less the taint of insanity can be detected in the family history, the more favorable the prognosis.

Treatment.—I do not know of any disease so difficult to deal with. It is of no use to try to persuade the patient of the unreality of his many ailments. He is thoroughly convinced of their reality, and adduces his subjective symptoms as evidence. There is no doubt but that his sufferings are real and often acute, and to gain his confidence the physician must appear to be interested in his narration of his symptoms, and convince him that every effort will be made to cure him. Above all, the morbid fancies of the patient ought not to be made a subject of jest or ridicule.

Attention to diet, exercise in the open air, suitable amusements, pleasant occupation, etc., are desirable; especially when it is considered how necessary it is to divert the patient's attention from the ceaseless contemplation of his ailments. These things all tend to lift him out of himself, and give him an interest in other objects. Reading medical books

should be forbidden, for their perusal only tends to intensify his conviction of the danger of his condition.

Remedies should be given to relieve coincident affections; as, dyspepsia, flatulence, anæmia, spermatorrhœa, etc. The remedies particularly indicated in hypochondriasis are: *Nux vomica*, *Sulphur*, *Anacardium*, *Cinchona*, *Cal. carb.*, *Phos.*, *Ignatia*, and *Aurum metallicum*.

NUX VOMICA is indicated when the disease is brought on by indigestion or sedentary habits. The symptoms indicating its use are: Anxiety about one's condition, with disposition to talk about it; anxiety with dread of impending misfortune; anxious solicitude and irresolution; inability for mental work, with great dread of it; unable to think correctly; *obscuration of mental faculties* before each meal, but relieved by eating; it seems as though a veil were before the mind; impatience with work; in a hurry to finish whatever he sets about; distress in the stomach; constipation; tendency to hemorrhoids.

SULPHUR.—Great depression of spirits; despondency; sad, discouraged, and weary of life; anxiety and expectation of sudden death; apprehension of some great misfortune; frequent attacks of melancholy; anxiety about one's health; aversion to business; inability to fix the attention upon any train of thought or any occupation; capricious appetite; eructations; flatulence.

AURUM MET.—Painful, anxious state of the mind; *despondent*; *melancholy*; *fond of solitude*; brooding over imaginary ailments; *disposition to commit suicide* from *weariness of life*; distress in præcordial region, accompanied by great restlessness; *apprehension of danger*.

ANACARDIUM.—Illusions and morbid fancies; low spirited; desponding; solicitous and anxious about trifles; fear of approaching death; weakness of memory; irritable.

CINCHONA.—Hypochondriasis with debility in consequence of excessive sexual indulgence; *spermatorrhœa*; confusion of ideas; low spirited; pallid complexion; apathy and indifference; worse from mental exertion.

PHOSPHOROUS is indicated when the disease is the result of masturbation. The symptoms are: Uneasiness about one's health; *timidity* and *irresolution*; taciturnity; dejection of spirits; *prostration in consequence of unpleasant impressions*; *headache from mental exertion*; feeling of goneness in the region of the stomach; palpitation from any emotion; pressure under the sternum.

I have generally found the higher potencies more efficacious in hypochondriasis than the lower. I seldom give lower than the 30th, and frequently use the 200th with marked benefit.

HYSTERIA.

Hysteria is a nervous disorder, chiefly, but not always, affecting females; assuming a multitude of forms, but generally of a paroxysmal character. The name hysteria has been applied to it from its supposed origin in the uterus, but is inappropriate, because it is not necessarily connected with any disease of that organ, nor confined to the female sex, males being also subject to it.

Causation.—The most frequent predisposing cause is a certain condition of the nervous system most commonly met with in the female sex, but which is occasionally observed in males. Sedentary lives, want of occupation, sudden surprise or shock, disappointment, vexation, and fits of anger, are exciting causes.

Overwork, anxiety, and loss of sleep, conjoined with certain nervous endowments, constitute the exciting causes in the male sex.

In the female the disease usually commences about the time of puberty, that is, between eleven and sixteen years of age. It may also appear at or after the menopause. Of 351 cases of hysteria, 25 occurred after the age of 40.

In males the disease generally occurs at a more advanced age than in females, being from 35 to 50, and upward.

The disease is more common in the single than in the married state. Married women who are unfruitful are more liable to the disease than those who bear children.

Excessive sexual indulgence does not seem to be an exciting cause, as prostitutes are rarely affected. It is also doubtful if disorders of menstruation, or disease of the uterus or its appendages, have any appreciable effect in developing the complaint. There is undoubtedly frequent coincident disease of the generative organs, but not of one kind more than another.

Symptoms.—The symptoms are those which pertain to the hysteric temperament, and those belonging to the hysteric paroxysm.

In the first case there are perversions of volition, emotion, sensation, motility, and special senses. The will of the pa-

tient is impaired or lost for the time being; she cannot do this or that; is unable to walk, to articulate above a whisper, to swallow, etc. The inability exists in the fancy of the patient alone; but it is real until some motive is powerful enough to divert the attention, when she does the things she says she cannot do.

The display of emotion is excessive and constantly changing. From laughter to crying; from excessive loquacity to sullen taciturnity; from anger and petulance to extreme good nature the alternations are sudden, and often ludicrous.

Sensation is often exaggerated. The patient complains of intense pain in different parts of the body, more generally in the head and along the spine. If the part is touched there is loud complaint, yet the countenance seldom indicates much suffering. Other morbid sensations are shortness of breath, palpitation, rush of blood through the arteries, sensation of constriction about the heart, feeling as if a lump was in the throat, etc. Diminished sensibility may also be present, occasionally affecting one-half of the body, but usually confined to one limb, or a portion of a limb, or to the face.

Motility is affected in the majority of cases. There may be deficient action of the voluntary muscles, the patient declaring that she is incapable of this or that muscular effort. Or spasms, cramps or tonic contractions of muscles may take place in the limbs, jaws, pharynx, etc. Paralysis of motion may occur, sometimes involving one side, but more generally confined to a small portion of the body.

The special nerves of sensation are often more or less involved. Sight, hearing, smell, taste, and touch, are morbidly acute, and intense discomfort or pain is caused by light, noise, certain odors and tastes, or pressure upon the skin. If, however, the patient's mind is diverted from the subject the intense sensitiveness ceases for the time.

Symptoms of the hysteric paroxysms.—The symptoms which belong to the paroxysm are sudden screaming and shrieking, convulsive movements of the body, clenching of the hands, beating of the chest, tearing of the hair and clothing, snorting breathing, globus hystericus or sensation as of a ball in the throat, incoherent talk, alternate laughing and crying, abundant discharge of pale, limpid urine. The patient finally sinks exhausted and partially insensible. The attack may last from a few minutes to several hours.

Hysterical mania may follow a paroxysm characterized by

abusive, noisy talk, great loquacity, and a tendency to mischief.

Hysterical patients are often given to simulate other diseases, such as paralysis, epilepsy, disease of the spine, aphonia, suppression of urine, stricture of the œsophagus, etc. Undoubtedly many believe themselves to be affected with these maladies, and the suffering is real to them.

One of my patients was convinced she had spinal disease, and complained of acute pain whenever the spine was touched ever so lightly. Another simulated epilepsy so cleverly as to deceive her family and myself for some time.

Pathology.—Anatomical investigation fails to show any lesion to account for the phenomena of this disease. In males the disease occurs late in life, and is caused by mental overwork. The long-tasked mental powers suddenly give way, and hysteria is the result.

Diagnosis.—A careful examination of the case and the history of the patient will usually lead to a correct diagnosis. It may be mistaken for epilepsy, paralysis, neuralgia, or spinal disease.

From epilepsy the hysteric paroxysm may be distinguished by several points of difference. In epilepsy the attack is sudden, with complete unconsciousness, dilated pupils, and asphyxia. In hysteria the attack is more gradual, with partial consciousness; the patient looks about, sobs, and cries.

Hysteric paralyses are imperfect in development, shift from place to place, and are wanting in electric contractility peculiar to true paralysis.

The pain of hysteric neuralgia is often forgotten when the patient's attention is diverted from herself, and is often located in situations foreign to true neuralgia.

In hysteric spinal disease pain is the only noticeable feature present; other symptoms not being met with.

Prognosis.—Hysteria when once established is very difficult to cure; especially if the result of constitutional peculiarities and not of organic disease. If dependent on the latter a removal of the exciting cause may be followed by a permanent cure. The prognosis, therefore, must largely depend upon the cause of the disease.

Treatment.—While it is very difficult to cure the disease when once well established, yet it is possible by judicious measures, by careful attention to bodily health, and by furnishing suitable occupation to body and mind, to restrain the

further development when the tendency to the disease is manifested in early life.

Dr. Hammond says: "No cases are so well calculated to test the patience and tact of the physician as those of hysteria. For he has an affection to deal with which not only requires proper medical treatment, but in which he must often exert the highest mental qualities in order to cure the disease. A great deal, therefore, depends on the knowledge of human nature and the force of character of the physician; and it is doubtless owing to this fact that some physicians, with all their medical knowledge, fail in curing hysterical affections, while others with no superior science succeed at once.

"The first thing to be done is to gain the confidence, and what is of still greater importance, the respect, of the patient. Having done this, any treatment, moral or medical, calculated to relieve her, will be much more apt to produce the desired effect."

From Ludlam I quote the following:

"In the first place, if you desire to be most successful in treating this class of diseases, you should maintain your distinctive character as physicians. For there is a species of mutual reserve and respect which should separate the physician from his patients, and which invest him with a peculiar influence over them. If this is properly maintained, it need not subtract from the social character and position upon which so much of his general reputation depends. But it will give him an immense advantage in the management of every kind of hysterical disorder, to which so many of his lady patients are subject.

"Nor is a highly-wrought, delicate, impressible, nervous woman likely to be benefited by the advice of a physician whose personal habits and manners are repulsive to her, and whom she is compelled to tolerate rather than esteem. In this, as in other matters, trifles have great weight. I have known a brother practitioner, who was skillful and competent, to be discharged by such a patient for the reason that 'he never wore a decent cravat.' His slovenly habit more than counterbalanced the effect of his remedies, and, while he continued to visit her, his patient grew worse instead of better. The good influence of one physician may be crippled by his loquacity, another is too taciturn, a third asks too many, and a fourth too few, questions of the patient; one brings too full a budget of news from a neighbor; another is

eternally canvassing for his school of medical practice, his church, his club, or his political party; one is too cross, while it is alleged that another is 'altogether too kind.'

"I am so confident that a lack of sympathy, a dearth of feeling, a real incompatibility of temper and taste between the physician and his hysterical patient, may cause his treatment to result in more of harm than of good, that, in case this obstacle cannot otherwise be removed, I think it better to withdraw, and to let another physician be called. Indeed I have sometimes voluntarily discharged myself, after having frankly told the patient and her family that, for some unknown reason, my remedies had failed to cure her, and that, in my judgment, such a change was what she most needed. Under similar circumstances we would not hesitate to discharge the nurse whose every movement was annoying to the patient and antagonistic to her comfort and welfare, and I do not know why the same rule should not also apply to the doctor. If a new face and a new method of prescription will work the desired change in her feelings and her symptoms, by all means let them be tried. For these things can operate through the emotions, and may entirely supersede the necessity for remedies of whatever kind. And by following this rule, although you lose the credit of curing one such patient, you will gain the reputation of saving another; for, when the wheel turns around, your face and your manner may be the one thing needful in a similar case which your professional neighbor has failed to relieve."

The best way to secure the patient's confidence is to convince her of appreciation of her own feelings; to assure her of a belief in the reality of her sufferings, and that she is not merely pretending to suffer. Also there should be tact in questioning and management; a strong will to control, and resolution to prevent injurious influence of friends.

Some agreeable occupation or study should be provided. The bodily health must be carefully looked after. The diet should be nutritious, easy of digestion, taken at regular intervals, and of sufficient quantity.

Exercise in moderation, and in the open air, should be freely taken, guarding against fatigue. The exercise should not be mere muscular effort, but must be of a nature to interest and amuse. If possible, some motive should be supplied; something to be gained, some good end to accomplish, in order to divert her mind from her disease.

The treatment should have two objects in view. First, to

relieve the hysteric paroxysms. Second, to remove and cure the hysteric condition, or that state of the nervous system which constitutes the affection called hysteria. The first is comparatively easy, but is only palliative; but if we can achieve the second the patient is permanently relieved.

The principal remedies for hysteric paroxysms are: *Belladonna*, *Cicuta*, *Ignatia*, *Moschus*, *Hyoscyamus*, *Gelseminum*, and *Caulophyllum*.

BELLADONNA.—Violent delirium; violent fits of laughter; disposed to bite and strike those around; muscles of face and limbs agitated by convulsive twitchings; throwing of the body backward and forward; flushed face; profuse, watery urine.

CICUTA.—Convulsion, with loss of consciousness; distortion of the limbs; involuntary jerking and twitching of the arms and fingers; singing, dancing, and shouting.

IGNATIA.—Convulsions; jerkings and twitchings in various muscles; sensation of choking, with constriction of the chest; rapid alternation of feeling from laughter to tears; profuse secretion of watery urine.

MOSCHUS.—Tetanic spasms; violent convulsive movements; sense of suffocation; copious, colorless urine.

HYOSCYAMUS.—Convulsive jerking of muscles; long-lasting spasms; screaming, laughing, and crying, alternately; lively gesticulations; lascivious actions; constriction of the larynx; silly laughter; hysterical paroxysms occurring during the menstrual period.

GELSEMINUM.—Excessive irritability of mind and body, followed by hysterical convulsions; trismus, or a kind of cataplexy, with inability to move the muscles, which do not respond to any effort of the will; pupils dilated.

CAULOPHYLLUM.—Hysterical convulsions occurring from dysmenorrhœa, also, in delayed menstruation, with feeling of congestion and irritability of the uterus; copious discharge of straw-colored urine.

For the hysterical condition or tendency, the remedies are numerous, and careful discrimination in the selection of the proper one is necessary. It will be impossible to give special indications. The age, idiosyncrasies, functional disturbances, and general health of the patient, will need to be carefully considered in each individual case.

The remedies I shall especially mention are: *Nux vomica*, *Pulsatilla*, *Ignatia*, *Moschus*, *Caulophyllum*, *Cal. carb.*, *Lycopodium*, *Nux moschata*, *Platina*, *Sepia*, *Valeriana*, and *Zincum*.

CHAPTER XI.

EPILEPSY AND CHOREA.

EPILEPSY—SYMPTOMS—CAUSATION—HEREDITARY TENDENCY—DIAGNOSIS
—PROGNOSIS—MORBID ANATOMY AND PATHOLOGY—TREATMENT.
CHOREA—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREAT-
MENT.

EPILEPSY.

THIS disease has been known and described by writers for nearly 3,000 years. It was prevalent in the time of Christ, and is spoken of in the New Testament. It is known as the falling sickness, or, more briefly, fits. It occurs in paroxysms attended with complete loss of consciousness, with more or less violent tonic and clonic contractions of muscles. There is a variety of epileptic convulsions incident to pregnancy and child-birth, and to uræmia, which need to be discriminated from true epilepsy. These are called epileptiform and uræmic convulsions.

An attack of epilepsy may come on suddenly without any warning, or there may be indications of an approaching attack, exceedingly variable in their character. These may consist of headache, roaring in the ears, a sense of constriction or fullness in the forehead, flashes of light before the eyes, hallucinations of the senses, vagaries of temper, stinging pains in various parts of the body, numbness and formication. A special indication of an approaching seizure is what is called the *aura epileptica*, which consists of some peculiar feeling or darting pain, originating in one of the extremities, or from the uterus, ovaries, heart, or stomach, and rapidly mounting to the brain. Sometimes an attack is preceded by an appearance of vivid colors before the eyes. One patient said that an attack was preceded by a vision of a little old woman dressed in scarlet who approached her and struck her a violent blow on the head with a stick, which was followed by immediate unconsciousness. In a little less than one-half the cases the paroxysm comes unannounced. Of 264 patients, 183 had precursory symptoms.

Symptoms.—Loss of consciousness is a characteristic symptom of epilepsy. Without this there can be no true paroxysm. The loss of consciousness may be momentary and unaccompanied with any convulsive movements; it may be attended by partial spasm or by general convulsions.

Great differences exist in the character and duration of the epileptic seizure. Two varieties are generally recognized; namely, *epilepsia mitior*, or *le petit-mal*, and *epilepsia gravior*, or *le grand-mal*. The first is a slight attack, attended by a sudden, temporary, but absolute, arrest of consciousness and volition, without spasm, or by slight facial muscular contraction. The second is a more prolonged unconsciousness, with tonic and clonic spasms of greater or less severity.

More minute classifications are made as follows:

- 1st. Unconsciousness without spasm.
- 2d. Unconsciousness with slight local spasm.
- 3d. Unconsciousness with general tonic and clonic convulsions.

Unconsciousness without spasm.—The patient attacked loses consciousness for one or two seconds, during which there is an absolute blank. If conversing, he stops speaking for a moment and then resumes the conversation unaware that anything has happened. If standing or walking, there may be a slight stagger or loss of balance. Sometimes there is a transient stare, or fixed look, of a few seconds. Occasionally these slight attacks are preceded by vertigo, faintness, and pallor of the face, succeeded by a slight flush.

Unconsciousness with slight local spasm.—In this variety there is a period of unconsciousness of longer duration than in the first, and convulsions slight in character but evident to the observer. The spasm is never violent. There may be slight strabismus, drawing of the mouth, turning of the head to one side, or sudden drawing of it backward; efforts to swallow or to get something out of the mouth; or there may be slight momentary rigidity of the whole body. Sometimes the patient holds the breath; leaves his chair suddenly to walk across the room; does some act which seems to imply volition—but is suddenly arrested by the loss of consciousness.

Unconsciousness with general tonic and clonic convulsions.—Premonitory symptoms may or may not be present. The paroxysm, however, begins suddenly. The patient falls to the ground in a moment, and the passage from conscious-

ness to unconsciousness is immediate. In many cases the fall is preceded by a fixed gaze and a peculiar cry—either a yell or a smothered groan. Then follow tonic contractions of the muscles of the body, with excess of contraction of some of them, drawing the body to one side or forward; arrested respiration, lividity of the face, dilatation of the pupils, throbbing carotids, and distended veins. Next the tonic spasm relaxes and clonic convulsions take its place. Violent convulsive movements of the muscles ensue; the jaws are clamped together frequently, severely lacerating the tongue caught between them; the lips are covered with foam (mingled with blood if the tongue is wounded); the features are convulsed; the eyeballs roll in every direction; the limbs are in a state of continual agitation; and there are often involuntary evacuations from the bowels and bladder, and emissions of semen. Respiration is labored; the walls of the chest heave violently; the nostrils are dilated; the trachea seems to be filled with mucus, which is ejected from the mouth; and the breath is drawn with a hissing noise. The spasm lasts from half a minute to three minutes. The convulsive movements then gradually subside, the patient draws a long breath, the respiration becomes easier, and the paroxysm is over. Five or six of the paroxysms may occur at short intervals before they entirely cease. The patient may regain consciousness soon after a paroxysm, or he may pass into a quiet sleep, or there may be a comatose sleep with stertorous breathing. In some cases a period of delirium ensues after the paroxysm. Generally the patient sleeps more or less heavily after an attack; waking up from it with confusion of ideas, vertigo, and a general feeling of soreness and heaviness. There is no recollection of the paroxysm, and the patient only surmises it from his general feelings of discomfort.

The paroxysms recur at varying intervals. Some patients will have several paroxysms in a period of ten or twelve hours, with a period of freedom from them for several weeks. Absolute periodicity is uncommon. Observers have noticed a tendency to recurrence at periods of seven days; that is, every seventh, fourteenth, twenty-first day, etc. In females the attacks are liable to come on during the menstrual period, but they are by no means limited to that period.

The intellect may or may not be impaired in epilepsy. The belief is general that the disease always weakens the mental faculties and tends to imbecility. Epilepsy does not

necessarily affect the mental faculties. In at least one-third of the cases there is perfect mental integrity. In the other two-thirds there is more or less mental deterioration. When the disease appears after the age of puberty it is more apt to be associated with impaired intellect. Derangements of sensibility and motility are of frequent occurrence. Of the former, headache, vertigo, and a feeling of constriction around the forehead, are common.

Of motility, twitchings of the muscles, and jerking of the limbs, the latter occurring most frequently at night just as the patient falls asleep.

Causation.—Of the causes inducing it we know but little. In some cases it is supposed to be due to some condition of the brain, in others, to irritation of the peripheral nerves, which is transmitted to the brain. Some writer advanced the theory that it was due to unexpended nervous energy, and adduced as proof that certain men of immense nervous force, when not actively engaged in work, had occasional attacks of the disease. He cited Cæsar, Wellington, and Napoleon as instances.

Dr. Todd attributed the disease to an abnormal development of nervous force, which manifests itself in the epileptic paroxysm as a Leyden jar charged to a certain amount of tension discharges itself.

Hereditary tendency.—Intemperance, venereal excesses, masturbation, worms, are supposed to be predisposing causes.

The exciting causes are anxiety, fright, grief, overwork, dentition, indigestion, blows on the head, falls, etc. In a large proportion of cases no cause can be assigned.

Diagnosis.—Keeping in mind all the characteristic symptoms of the disease, epilepsy may be readily distinguished from any other affection. The only diseases with which it is liable to be confounded are eclampsia, uræmic convulsions, apoplexy, and hysteria, and then only when a very superficial examination of the patient has been made.

The sudden seizure, the unconsciousness, the tonic and clonic spasms, the frothing at the mouth, and the short duration of the spasms, are diagnostic points. In young children, however, it is sometimes difficult to determine whether we have an ordinary case of convulsions or one of epilepsy.

Epilepsy is sometimes simulated by malingerers or hysterical individuals. The resemblance is heightened by putting soap in the mouth. It is difficult to simulate all the symptoms, particularly pallor, succeeded by the livid hue of the

face, and the insensibility of the pupils to light. A vigorous pinching or pricking, or pressure on the conjunctiva, will commonly reveal the imposture, unless the impostor has the stoicism of an Indian. The disease may exist some time without being suspected if the paroxysms occur habitually in the night. Lassitude, unusual debility, vertigo, or wounded tongue, observed the following morning, should direct attention to the cause.

Prognosis.—When the disease has been once established the prognosis is very unfavorable as regards a permanent cure. Recent cases afford a much better prospect of recovery, and also those occurring early in life. As a general rule the longer the disease has lasted the more unfavorable the prognosis.

As regards immediate, or even remote danger to life a much more favorable opinion can be given. Death generally occurs from some intercurrent affection. The general health is seldom seriously impaired. I know of several individuals who have been subject to severe paroxysms for the last thirty years, and whose mental and physical condition is still good. Death rarely occurs during or immediately after a spasm. I have known of but two cases. In one the health of the patient was seriously impaired by dissipation. Hammond says he has never known a death to occur during a paroxysm of true epilepsy.

Morbid anatomy and pathology.—Post-mortem examinations fail to give any certain explanation of epilepsy. A great number of lesions of various kinds, and in different organs of the body, have been found which may or may not be the cause of the disease. *Per contra* no discoverable changes have existed in many cases. Fox gives the following list of post-mortem appearances: "Foreign bodies developed on the meninges, in the ventricles, in the cortical substance; increase of subarachnoid fluid or distention of the ventricles by serum; induration, softening and general swelling of the cerebral mass; general or partial hyperæmia, cysts, tubercles, cancers, exostoses, periosteal growth, thickening or some change of the arachnoid or pia mater; abnormal thickness or thinness of the cranial bones; excessive size of the head; increase of the volume of the cranial cavity; deformities or abnormality in the conformation of this cavity; caries of the cranial bones; pus between the bone and the dura mater; tubercle of the dura mater; abscess in the cerebral tissue; spots or regions of hemorrhage; various traumatic lesions;

alterations of the pineal gland; inequality of weight and size of the cerebral hemispheres; various lesions connected with blood vessels; aneurism; embolism; atheroma; increase in size of the capillaries of the medulla oblongata; fatty degeneration of same portion of the medulla; capillary dilatation in the pons and cerebellum; hemorrhage of pons; anæmia of brain, either from disease of vessels or dependent upon general anæmia." These changes are inconstant. Some of them are probably the cause of the paroxysms.

Reynolds says: "Bearing in mind all the facts of epilepsy, and proceeding to their interpretation by the aid of physiology, we arrive at the following conclusions—

"First. That the seat of primary derangement is the medulla oblongata, upper portion of the spinal cord, and vasomotor system of nerves.

"Second. That the derangement consists in an increased and perverted readiness of action in these organs; the result of such action being the indication of spasm in the contractile fibres of the vessels supplying the brain, and in those of the muscles of the face, pharynx, larynx, respiratory apparatus, and limbs generally.

By contraction of the vessels the brain is deprived of blood, and consciousness is arrested; the face is, or may be, deprived of blood, and there is pallor; by contraction of the muscles which have been mentioned there is arrest of respiration, the chest walls are fixed, and the other phenomena of the first stage of the attack are brought about.

"Third. That the arrest of breathing leads to the special convulsions of asphyxia, and that the amount of these is in direct proportion to the perfection and continuance of the asphyxia.

"Fourth. That the subsequent phenomena are those of poisoned blood; namely, of blood poisoned by the retention of carbonic acid, and altered by the absence of a due amount of oxygen.

"Fifth. That the primary nutrition change, which is the starting point of epilepsy, may exist alone, and epilepsy be an idiopathic disease.

"Sixth. That the change may be transmitted hereditarily.

"Seventh. That it may be induced by conditions acting upon the nervous centers directly, such as mechanical injuries, overwork, insolation, emotional disturbances, excessive venery, etc.

"Eighth. That the nutrition change of epilepsy may be

a part of some general metamorphosis, such as that present in the several cachexiæ, rheumatism, gout, syphilis, scrofula, and the like; and, further, that it may be often associated with change in the cortical substance of the hemispheres of the brain.

"Ninth. That it may be induced by some unknown circumstances determining a relative excess of change in the medulla, during the general excess and perversion of organic change occurring at the periods of puberty, of pregnancy, and of dentition.

"Tenth. That it may be due to diseased action extending from contiguous portions of the nervous centers or their appendages.

"Eleventh. That the so-called epileptic aura is a condition of sensation or of motion dependent upon some change in the central nervous system, and is, like the paroxysm, a peripheral expression of the disease, and not its cause."

Treatment.—Cases are recorded as being cured by quite a number of remedies: *Cuprum, Agaricus, Stramonium, Cedron, Phosphate of Zinc, Phosphorus, Sulphate of Zinc, Digitalis, Ignatia, Hyoscyamus, Zizia aurea.*

I cannot say that I have cured many cases of epilepsy. In the majority of cases I have not cured, and at the best have only succeeded in prolonging the intervals between the paroxysms. Neither do I consider that our provings of drugs afford us any positive indications for therapeutical application. I have succeeded better with *Cuprum metallicum* than with any other remedy. Many of the indications laid down in our literature as guides for the administrations of medicines in epilepsy I regard as worthless. Under the head of *BELLADONNA* I find this symptom: "There is an aura as if a mouse were running over an extremity." Now, what would be the difference between the running of a mouse, a young rat, or a cockroach to the sensory nerves of the patient? It has been said that every disease difficult to cure has a multitude of specifics. Schools of medicine from time immemorial have been multiplying remedies for epilepsy, and yet it continues as refractory to treatment as of old. Of late years the *BROMIDES* have been much lauded by the so-called regular school, but they have failed as other remedies have failed. If the cause of the disease can be removed a cure will follow in many instances.

MERCURIUS should be persistently administered in cases of epilepsy of syphilitic origin.

CHINA and PHOSPHORUS.—If induced by onanism or excessive sexual indulgence.

CUPRUM.—When the result of suppressed eruptions.

IGNATIA, HYOSCYAMUS, and STRAMONIUM.—In emotional epilepsy, from fright, anger, fear, etc.

Hygienic precautions should be observed; constant exercise in the open air; control of the passions; attention to diet, only using food which is nutritious and digestible; moderate mental labor, are highly beneficial.

Certain measures are efficacious in warding off an attack when premonitions of it occur. Among the most efficacious of these is the inhalation of the NITRATE OF AMYL. Four or five drops may be kept ready in a vial, and should be poured on a handkerchief on the first indication of an attack and inhaled. A ligature drawn tightly around the limb in which the aura is felt will sometimes avert a paroxysm. If the disease results from injury to the skull trephining may be of great service.

CHOREA.

(*Synonym, St. VITUS'S DANCE.*)

This disease is characterized by an irregular contraction of the voluntary muscles, and a loss of the co-ordinating power which makes muscles to move in harmony with each other. The disease generally begins in one of the extremities, making its appearance in one arm, then in the leg of the same side. It seems as if the patient could not keep the affected limbs still for a single minute; they are moved hither and thither in a jerking, abrupt, irregular manner. Muscle after muscle is implicated until nearly all are involved.

At first the irregular movements are moderate; the arms, legs, and head are chiefly affected, and the movements are like those of a nervous child. They gradually increase in severity until every part of the body is in incessant motion. The arms and legs are jerked violently about, the head is tossed from side to side, the facial muscles are in incessant agitation, giving rise to a most extraordinary series of grimaces. In some cases the tongue is thrust out in all directions.

I will describe a case which came under my observation as illustration of the symptoms in an exaggerated form of the disease:

Miss C., aged thirteen, of sanguine nervous temperament,

had never menstruated. I first saw the patient in the third week of the attack. On entering the room I found the patient lying on the bed, and held there by her father. He informed me that for the past three days it had been necessary to exercise constant supervision over her to prevent injury; that if left alone she would be thrown violently from the bed on to the floor from sudden convulsive action of the muscles of the trunk. On seeing me she was violently convulsed. Every muscle of her body was in wild commotion. The arms and legs were thrown violently in every direction; the body twisted this side and that; the face horribly distorted from the irregular and rapid movements of the facial muscles; the tongue thrust suddenly and repeatedly from her mouth; the pupils dilated and the eyes staring. The symptoms in a short time became less violent, but were renewed on the patient being spoken to, or on her attempting to make any effort, as drinking, speaking, or taking hold of any object.

She had no power of speech, and could only utter some inarticulate sounds. Deglutition was next to impossible. There was considerable emaciation from innutrition. At night there were only short periods of restless, unrefreshing sleep. The hips and elbows were red and excoriated from constant friction of the bed. The patient completely recovered in four weeks.

Chorea varies in severity from the extreme case mentioned to slight irregular movements of the muscles of the face and extremities.

In the milder forms it may be manifested only in occasional grimaces, shrugging of the shoulders, or some sudden involuntary movement of the limbs, while in the worst cases it is a distressing exhibition of incessant muscular contortions.

The convulsive movements are usually suspended during sleep. They are aggravated by the presence of visitors, by emotional disturbances, and by attempts to exercise the will. An effort to grasp an object, to feed one's self, or to perform any act, at once intensifies them.

The power of speech is frequently impaired, and, in some instances, entirely lost. This is due to want of co-ordination in the muscles, or to paralysis, partial or complete.

The intellect is usually not impaired, or not to any great extent.

Chorea occurs oftenest between the ages of ten and fourteen. Of 531 cases recorded 453 were between six and fifteen.

The disease is infrequent during infancy, and after the age of puberty. The female sex is much more liable to chorea than the male. The proportion after the age of nine is five females to two males; prior to nine, the number of cases in the two sexes is about equal.

Causation.—Inherited nervous temperament, and excitable and emotional natures undoubtedly predispose to the disease. The exciting causes are fright or other intense mental emotion, hard study, and the irritation of worms in the alimentary canal. As chorea often occurs in girls about the age of puberty there seems to be some connection between the establishment of the menstrual function and the disease. The fact that it is also more likely to occur in anæmic conditions is additional evidence of such relation.

Diagnosis.—The diagnosis is generally made without difficulty. In fact there is no disease with which it is liable to be confounded. As it is sometimes complicated with hysteria, especially in adults, the diagnosis, in such cases, may be somewhat doubtful.

Prognosis.—The prognosis is favorable in cases occurring before puberty. The natural tendency of the disease is towards recovery. After puberty the prognosis is unfavorable in proportion to the age of the patient—the older the patient the less the prospect of recovery.

The average duration of the disease is ten weeks.

Pathology.—Post-mortem examinations reveal no constant lesions of nervous tissues or their envelopes. In a majority of cases congestions of the brain and spinal cord, softening and adhesions have been observed.

Recently pathologists have advanced the theory that minute particles of fibrin become detached from the valves of the heart, and are carried by the current of blood to the brain, and lodged in the small vessels given off from the middle cerebral artery, thereby affecting the nutrition of the nerve tissue supplied by these vessels. In support of these views it is alleged that in the majority of fatal cases examined fibrinous bands were present on the cardiac valves; also numerous clustering, warty vegetations, easily detached, on the auricular aspect of the mitral valve, and along the free margin of each cusp. These vegetations were so minute as to be scarcely visible to the naked eye.

Treatment.—The remedies most effective in the treatment of chorea are *Ignatia*, *Nux vomica*, *Stramonium*, *Cuprum*, *Zincum met.*, and *Hyoscyamus*.

IGNATIA is indicated if the attack is brought on by grief or fright, or other emotional disturbance. The symptoms are: jerking and twitchings of the arms and legs; constant agitation of the muscles; twitchings of the corners of the mouth.

NUX VOMICA is indicated in chorea attended with a sensation of torpor or numbness of the limbs.

STRAMONIUM is indicated in severe cases, with incessant convulsive motion of the limbs; distortion of the facial muscles; *ludicrous grimaces*; *sudden protrusion* of the tongue; imperfect, stammering articulation; *loss of speech*. It was the remedy administered in the case I have detailed, and speedily produced an amelioration of the symptoms.

CUPRUM proved curative, in the case of a boy nine years of age, after other remedies had failed. The convulsions were worse on the right side; violent movements of one arm and leg; twitching of the muscles of the face; innutrition and emaciation from difficult mastication and deglutition. The *disease followed* an attack of *whooping-cough*.

HYOSCYAMUS has sometimes proved of benefit in chorea after long and debilitating disease.

AGARICUS is useful in slight cases, with twitching of single muscles, particularly of the face and *eyelids*.

CINA.—When chorea is caused by worms.

PULSATILLA.—In chorea caused by amenorrhœa.

CHINA.—When arising from anæmia or debility.

PHOSPHORUS.—When caused by masturbation.

CALCAREA CARB.—Choreic movements during time of dentition.

In severe cases, warm baths at bed time, and application, for a few minutes at a time, of ether spray along the spine, are efficient in quieting the convulsive movements and promoting sleep.

Hygienic measures should not be omitted. Abundance of fresh air, exercise, and a nutritious diet, are indispensable aids to a speedy cure.

CHAPTER XII.

CEPHALALGIA AND NEURALGIA.

CEPHALALGIA. CONGESTIVE HEADACHE. GASTRIC OR SICK HEADACHE. HYSTERICAL HEADACHE—SYMPTOMS—TREATMENT. NERVOUS HEADACHE, OR MEGRIM—SYMPTOMS—TREATMENT. RHEUMATIC HEADACHE—SYMPTOMS—TREATMENT. NEURALGIA—CAUSATION—DIAGNOSIS—PROGNOSIS—VARIETIES OF NEURALGIA. NEURALGIA OF THE FIFTH PAIR OF NERVES—SYMPTOMS—TREATMENT. CERVICO-OCCIPITAL NEURALGIA—CAUSATION—TREATMENT. CERVICO-BRACHIAL NEURALGIA—SYMPTOMS—CAUSATION—TREATMENT. CRURAL NEURALGIA. SCIATIC NEURALGIA—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

CEPHALALGIA.

CEPHALALGIA, or, as it is more commonly called, headache, is a symptom of very frequent occurrence, being present in the majority of acute, as well as in many chronic, diseases. It is a prominent symptom in all the essential fevers, in cerebral meningitis and acute cerebral congestion. It may also be found in connection with abscess or tumors of the brain, or with syphilitic affections of the pericranium, and often precedes apoplectic and hemiplegic attacks.

The pain is sometimes rheumatic in its character, at other times neuralgic; the latter is generally the result of some affection of the cervico-occipital nerves or the supra-orbital division of the fifth pair.

At one time the pain is deep-seated, at another, superficial. It affects various regions of the cranium; as the occipital, frontal, and lateral. It occurs in paroxysms of different degrees of intensity and duration; and there are few persons of adult age who have not at some time experienced them.

The paroxysms may last from a few hours to two or three days. They usually begin in the morning on rising, and continue until the patient finds relief in refreshing sleep the following night, unless sooner relieved by medicines. They generally occur at irregular, though sometimes at regular, periods. This affection is confined almost entirely to adult life; rarely occurring in extreme youth or advanced age; and is more common among literary men, or brain workers in

general, than among manual laborers. Those who lead an active out-door life are more free from it than those of sedentary habits. Females are more subject to this affection than males, especially to the nervous and "sick" headaches.

Cephalalgia is divided into different classes, according to the different causes which tend to produce it. These classes or varieties are: congestive headache, gastric or sick headache, hysteric headache, nervous headache or megrim, rheumatic headache, and headache from the sun's rays, or from emotions, as grief, anger, etc.

CONGESTIVE HEADACHE.

Congestive headache is the most common form, and is due to congestion of the vessels of the brain, which may be the result of different causes; generally from a state of debility of the vessels of the brain, from excessive mental exertion, from loss of blood or sleep, from excitement, lack of exercise, or any cause which might favor a rush of blood to the head. It may also be the result of certain forms of heart disease, by hindering the return of the blood from the brain. There are throbbing and heat in the head; throbbing of the carotids; the face is flushed, and there is a sense of weight and fullness in the head; worse on motion.

The remedies for congestive headache are: *Aconite*, *Belladonna*, *Bryonia*, *Gelsemium*, and *Veratrum viride*.

ACONITE.—Burning headache, as if the brain were agitated by boiling water; pain very severe; fullness and heavy feeling, as if everything would push out of the forehead; congestion; anxiety; face hot and red, or pale; pulse full and strong, or small and quick; worse toward evening; eyes injected; incoherent talking or raving.

BELLADONNA.—Intense headache, aggravated by noise, motion, moving the eyes, contact, and when coughing; rush of blood to the head; pulsation of cerebral arteries; violent throbbing in the brain from behind forward and toward both sides; the throbbing ends on the surface in painful shootings; jerking headache extremely violent on walking quickly, or ascending stairs rapidly; at every step a jolt downward as if a weight were in the occiput; stabbing, as with a knife, from one temple to the other; pain relieved by pressure.

BRYONIA.—Headache commencing in the morning when first opening the eyes; headache worse on stooping; pressing pain above left eye, followed by dull pressing pains in occipi-

tal protuberances; thence spreading over whole body; on quick motion, and after eating, the pain is so severe that it seems a distinct pulsation within the head; slight drawing pains in the temporal bones, from above downward toward zygoma; pressing pain in the occiput, drawing down into neck; relieved toward noon.

GELSEMINUM.—Dizziness and blurred vision; increased by sudden movement of the head and walking; fullness in the head; heaviness of the eyelids, with heat in the face, and chilliness; dull, dragging pain in occipital, mastoid, and upper cervical region, extending to shoulders.

VERATRUM VIRIDE.—Headache with vomiting; headache proceeding from the nape of the neck; head feels full and heavy; active congestion to the head; severe frontal headache with vomiting; headache with fullness in the head; throbbing of arteries; increased sensitiveness to sounds; buzzing in the ears; double or partial vision; headache from sunstroke.

GASTRIC OR SICK HEADACHE.

This is the most distressing form of headache, and is generally the result of indigestion, or some other disorder of the stomach; though it is often met with in people of literary pursuits and persons who take too little exercise. Females are more subject to this affection than males, especially intellectual, delicate females. It usually begins early in the morning after an unrefreshing sleep, from some unusual excitement, from dietetic errors, or debauch, and generally continues ten or twelve hours; or it may last two or three days. The pain is very severe, and is accompanied by vomiting, which sometimes affords relief.

The symptoms are: Distressing pain in one temple, usually the left, with tenderness of the eye of the same side; furred tongue; bad taste in the mouth; painful sensibility to light, loss of appetite, flatulence, offensive breath, hands and feet cold and clammy, feeble pulse, nausea and vomiting.

The remedies for gastric headache are: *Coffea*, *Iris*, *Nux vomica*, *Pulsatilla*, *Sanguinaria*, and *Sepia*.

The symptoms indicating **COFFEA** are: Headache as if the brain were torn or dashed to pieces; dizziness and confusion of the head; one-sided headache, as from a nail driven into the parietal bone; worse in the open air; headache worse after eating.

IRIS.—Cowperthwaite in his *Materia Medica* says: "The chief characteristic of IRIS is a headache resulting from gastro hepatic derangement, resembling the well known 'sick headache.'"

The symptoms indicating its use are: Dull, heavy, frontal headache, with nausea; dull throbbing or shooting in right side of forehead with nausea; worse toward evening; from rest; from cold air, or coughing; better from moderate motion; tired headache from mental emotion; *pain* in *epigastrium*.

NUX VOMICA.—Headache in the morning in bed; feels stupid as from want of sleep; stunning headache in the morning after eating, and in the sunshine; heaviness and pressure in the head after dinner, especially on moving the eyes; pressing, boring pains in the head, commencing in the morning, worse after eating; with nausea and sour vomiting; intense occipital headache, the pain extending to the frontal region; dizziness; pains in the eyes; deranged stomach; headache from constipation, or from mental exertion; or after excesses in eating and drinking; headache from over-use of coffee.

PULSATILLA.—Headache from overloaded stomach, or from fatty or too rich food; headache with aching pain in the eyes, in the evening; throbbing, pressing headache, relieved by external pressure; dullness of the head, and bruised sensation of forehead; pressing pain in forehead above the orbits, aggravated on raising the eyes. Specially indicated in sick headache of women of lymphatic temperament.

SANGUINARIA.—Headache begins in occiput, spreads upward and settles over right eye; headache in paroxysms; headache with nausea and chilliness, followed by flashes of heat, extending from head to stomach; periodical sick headache.

SEPIA.—Headache with stinging pain, from within outward, in one (mostly left) side of head, or forehead, with nausea, vomiting, and contraction of the pupils; worse indoors and when walking fast; better in the open air and when lying on the painful side; pulsating headache in cerebellum, beginning in the morning and lasting till noon, or sometimes till evening; intense frontal headache; dull pressure, or stitching, tearing pains.

HYSTERICAL HEADACHE.

Symptoms.—This is principally confined to nervous, hysterical females; is usually found as a symptom in affections of the ovaries, or menstrual disorders. The pain is sharp and lancinating, and located in the forehead.

Treatment.—The remedies are: *Cimicifuga*, *Caulophyllum*, *Cocculus*, *Chamomilla*, *Coffea*, *Gelsemium*, *Ignatia*, *Moschus*, and *Pulsatilla*.

CIMICIFUGA.—Rush of blood to the head; brain feels too large for the cranium after suppressed uterine discharges or suddenly ceasing pains; aching and shooting pains in vertex, occiput, left temple, eye, and ear—worse lying down; hysterical crying; top of head feels as if it would fly off; *coincident* pain in *ovarian* and *uterine* regions.

CAULOPHYLLUM.—Headache, with pressure behind the eyes; dimness of sight; headache dependent upon uterine derangement; severe pains by spells in the temples as if they would be crushed out.

COCULUS.—Headache, with nausea and inclination to vomit; pressing headache from without inwards, with nausea, aggravated by riding in a carriage, from eating, drinking, and sleeping; ameliorated during rest in-doors.

CHAMOMILLA.—Pressive headache in temples, as from pressure with fingers; one sided drawing or throbbing headache; tearing and stinging pain in left side, particularly in the temple, and in and around the eye.

The characteristic symptoms of *COFFEA* and *GELSEMIUM* are already given.

IGNATIA.—Headache, like a pressure with something hard on the upper surface of the brain; headache as if bruised or beaten, in the morning, on rising, which changes to toothache as if the teeth were crushed or shattered, then to bruised, beaten pain in small of back, worse when thinking about it; jerking headache on ascending steps, aggravated by raising the eyes; pain as if a nail were driven through the side of the head, relieved when lying on painful side.

MOSCHUS.—Determination of blood to the head, with staring eyes and twitching of the muscles of the mouth, followed by stupifying headache.

PULSATILLA.—Throbbing, pressive headache, relieved by external pressure; dullness of the head and bruised sensation in forehead; headache as if it would burst, worse on moving

the eyes; stupifying headache; running chills, with humming in the head, worse when lying or sitting, or in the cold.

NERVOUS HEADACHE, OR MEGRIM.

Symptoms.—In this form of headache the patient suffers much. There is great debility and prostration, with most violent throbbing in the brain; the patient is abnormally sensitive to noise and light, and seeks relief in a dark room or some secluded place; fever is not usually present; the surface of the body is cool, and of a clammy feeling. Delicate females of a nervous temperament are more subject to this affection than males.

Treatment.—The remedies are: *Belladonna*, *Colocynth*, *Coffea*, *Iris*, *Ignatia*, *Spigelia*, and *Moschus*.

COLOCYNTH.—Pressive frontal headache, worse while stooping or lying on the back; painful, tearing, digging through the whole brain, becoming intolerable when moving the upper eyelids; severe boring pain in right side of forehead; pressing and dull throbbing in the left temple, growing gradually more acute and cutting.

SPIGELIA.—Nervous headache, worse from thinking, from noise, or any jarring; face pale; anxious palpitation; nausea and vomiting; tearing pains in temple and forehead, extending towards the eyes; pressive headache, mostly in right temple and involving the eye; stitches in left side of head, and in left eye; headache from stooping as if a band were around the head.

MOSCHUS.—Pain in the head, deep in the brain; painfulness in the whole head as if sore, worse on being touched; aching pain in the head, with coldness; rush of blood to the head, also with heaviness in the head; tensive pressure, as if something were moving in the brain.

The characteristic symptoms of the other remedies have already been given.

RHEUMATIC HEADACHE.

Symptoms.—The seat of this form of headache is generally in the muscles of the scalp, though it sometimes affects the brain and its membranes, and is then indicative of danger. The pain is dull, continuous, and superficial, and differs from the other forms of headache in being intensified by pressure. The pain is also worse on movement of the affected muscles, and relieved by warmth.

Treatment.—The remedies are: *Bryonia*, *Cimicifuga*, and *Mercurius*.

BRYONIA.—The headache sets in usually in the morning on waking; the headache is aggravated by movement, particularly by opening and moving the eyes; the scalp is painful to the touch, as if sore; lacerating over the forehead.

MERCURIUS.—Stitches through the whole head; heat and burning in the head; the whole of the outer head is painful to the touch; lacerating pain in the outer parts of the head, particularly the bones; catarrhal and rheumatic headaches.

For headache from emotion, as grief, anger, etc., the remedies are: *Opium*, *Ignatia*, *Phosphoric acid*, *Chamomilla*, and *Nux vomica*.

From fright, *Opium*.

From grief, *Ignatia*.

From mental depression, *Phosphoric acid*.

From anger, *Chamomilla*.

From mental exertion, *Nux vomica*.

Other remedies which at times may be indicated are: *Amyl nitrate*, *Curare*, *Glonoine*, *Hyoscyamus*, *Lilium tigrinum*, *Platina*, and *Rhus tox*.

NEURALGIA.

Neuralgia is a disease of the nervous system, manifesting itself by pains along the course of particular sensory nerves. The pain is either in paroxysms, occurring with more or less regularity, or continuous, with exacerbations at greater or less intervals.

The pain is sharp, lancinating, and burning, except when continuous, when it is apt to be of a dull, contusive character, but during the exacerbations it becomes darting, tearing, lancinating, and of excruciating severity. Usually the pain of neuralgia has intermissions or remissions, occurring with more or less regularity. They may last for only a few moments, or may continue for several days.

The intermittent character is more frequently observed in neuralgia of malarial origin. In the great majority of cases of neuralgia there are premonitions of its appearance, though occasionally it is suddenly developed.

The premonitions are a sense of heat or weight, dull pains, and an uncomfortable feeling along the course of the nerve.

The disease is seldom attended with any febrile movement, or any serious constitutional disturbances. Local congestions

not infrequently occur, as in neuralgia of the ophthalmic division of the fifth nerve.

Tenderness on pressure in certain circumscribed spots has been by most authors considered diagnostic of the disease. As given by Valleix these spots are located as follows:

1st. Where nervous trunks or branches emerge from the skull or spinal canal.

2d. Over branches which penetrate muscles on their way to the integument.

3d. At the termination of branches which are lost on the surface; and,

4th. In places over trunks near the surface.

The tenderness is not shown by pressure over large areas as with the palm of the hand. It is felt when the point of tenderness is pressed with the finger tip or with the blunt end of a pencil.

The tenderness is most marked during paroxysms of pain, and is slight during the intermissions.

Trousseau disagrees with Valleix, and mentions but three tender points; namely:

1st. Where the branch, after being deep seated, becomes superficial, as over the supra-orbital branch of the ophthalmic, the infra-orbital branch of the superior maxillary, and over the mental foramen.

2d. Where the branches and small twigs of the nerve terminate in the skin; and,

3d. What he terms the spinous point.

The spinous point, as its name indicates, is situated over the spinous processes of the vertebræ, and is never absent. It is easily found out by making pressure in succession on the spinous processes of the vertebræ, beginning with the first two immediately beneath the occipital bone, down to the loins. When the tender spot is reached the patient makes an abrupt movement, and tries to avoid being touched, and sometimes even cries out. Pressure on the vertebræ above and below the point gives no pain. The pain of neuralgia is increased, or paroxysms induced, by sudden or violent movements of the body, or by concussion from falls and blows. The application of heat or cold in some cases increases the pain to an insupportable degree.

Neuralgia is not a complaint common to early life. Persons between the ages of twenty and fifty are most liable to its attacks. Dr. Anstie remarks that it is after the powers of life begin to decline that the most formidable attacks of neu-

ralgia are encountered. Those forms, which are attended with muscular spasm, and another, which Trousseau designates as the epileptiform, are almost peculiar to advanced life. Women are more subject to the disease than men, except the variety known as sciatica, to which men are more liable, probably on account of their greater exposure to the causes which induce it.

The disease is of very variable duration. It may terminate spontaneously after a brief duration, it may yield readily to treatment, or it may last for years in defiance of all medical skill.

Causation.—Intra-cranial lesions, pressure of tumors upon nervous trunks, concussions, bodily injuries, contraction of cicatrices, irritation from the presence of foreign bodies, are causes which induce neuralgia, but which do not properly bring the affection in the class of neuroses. Other causes are malaria, anæmia, malnutrition, mental excitement, prolonged and intense intellectual exertion, debility, prolonged lactation (which is only another name for debility), exposure to cold and damp, continued pressure upon a nerve, change of life, lead poisoning, and syphilis. Of these causes the most frequent are malaria and anæmia, or debility.

The most common exciting cause in this country, according to Hammond, is malaria, and it may be suspected whenever there is a well marked periodicity in the attack. Dr. Anstie remarks of debility as a predisposing cause of neuralgia:

“It is universally the case that the existing condition of the patient at the time of the first onset of the disease is one of debility, either general or special. I make this statement with great confidence, notwithstanding the contrary assertion advanced by so high an authority as Valleix, whose able treatise really laid the foundation for all our accurate knowledge of the neuralgias. In the first place, it is certainly the case that the larger half of the total number of patients coming under my care with the various forms of neuralgia are either decidedly anæmic or have recently undergone some exhausting illness or fatigue. In short, I have never seen a case of neuralgic pain in which there were not marked evidences of nervous debility, either local or general.”

Diagnosis.—The diagnosis is generally made without difficulty, except in cases of neuralgia affecting the viscera. I have already pointed out the method of determining neuralgia from other affections of these organs. In general, the character of the pain, its location along the course of the nerves,

its burning, lancinating character, its occurrence in paroxysms, its intermissions and periodicity, and the presence of tender points, render the diagnosis easy. The diagnosis, however, between neuralgia, pure and simple, and that which results from the pressure of tumors or other bodies upon nerves is more difficult, and, at times, impossible.

Prognosis.—The prognosis is uncertain in any individual case. In general it is favorable. About seven in eight recover. Those cases which have begun after the period of decline are the most obstinate and intractable, particularly if the patient has a hereditary predisposition to the disease. Other things being equal, the better the patient's general health, the better is the prospect of recovery—debility, anæmia, physical degeneration, and hereditary tendency, diminishing the patient's chances for speedy and complete recovery. The prognosis is most favorable in cases resulting from malarial and syphilitic poisoning.

Varieties of neuralgia.—Nearly all the writers follow the classification of Valleix, as follows—

1st. Neuralgia of the fifth pair of (trifacial or trigeminal) nerves.

2d. Cervico-occipital neuralgia.

3d. Cervico-brachial neuralgia.

4th. Intercostal neuralgia.

5th. Lumbo-abdominal neuralgia.

6th. Crural neuralgia.

7th. Sciatic neuralgia.

The fourth and fifth have been already considered under different heads.

NEURALGIA OF THE FIFTH PAIR OF NERVES.

Neuralgia of the three divisions of the fifth nerve are the most frequent and important. Either division may be the seat of the disease, or it may attack all simultaneously. The tender points of Valleix, and where the pains are always most severe, are in the ophthalmic division: the *supra-orbital*, at the notch of that name; the *palpebral*, in the upper eyelid; the *nasal*, at the union of the nasal bone with the cartilage; another is in the eyeball, and one is in the orbit at its inner angle. In the superior maxillary division the points are at the place of emergence of the infra-orbital branch from the foramen of that name; the *malar*, on the most prominent portion of the malar bone; the gums of the upper jaw; a point on

the lip, and another on the palate. In the inferior maxillary division the tender points are: one at the mental foramen; one in front of the ear, and the lingual on the side of the tongue.

Symptoms.—The most common form affecting the ophthalmic division is hemicrania or migraine.

The attack usually comes on in the morning, frequently disappearing at sundown, on which account it is commonly called *sun pain*. The paroxysms are characterized by a tendency to periodicity. The pain is lancinating, burning, and often of excruciating severity, occupying the frontal, temporal or parietal regions. It is aggravated by noise, bright light, and mental or physical exertion. Sometimes the pain radiates into the occiput, shoulders, and neck. In some cases the pain is confined to the eyeball and back part of the orbit. In such case there is often lachrymation, congestion of the conjunctiva, obscure vision, etc. When attended with nausea and vomiting it is known as sick headache. Tenderness in the region of the pain is commonly felt for some hours after the subsidence of the paroxysm.

A variety of trigeminal neuralgia is known as *clavus hystericus*, from the fact that the pain is limited to one or two small points, the pain being very severe, and feeling as if a nail were being driven into the skull. It appears during the time of bodily development, and is more frequently met with in the female than the male sex.

Another variety of neuralgia of the fifth nerve is called facial, *tic-douloureux*, or, by Trousseau, *epileptiform neuralgia*. It is characterized by muscular spasms during the paroxysms of pain. This variety is the least amenable to treatment, persisting for an indefinite period of time.

Treatment.—The remedies for neuralgia of the fifth pair of nerves are: *Aconite*, *Arsenicum*, *Cinchona*, *Iris*, *Belladonna*, *Colocynth*, *Gelseminum*, *Mezereum*, *Phosphorus*, *Sepia*, *Spigelia*, *Staphisagria*, *Thuja*, *Merc. corrosivus*.

The two remedies which I have found most efficacious in neuralgia of the head and face, other than sick headache, are *Aconite* and *Arsenicum*. With them either singly or in alternation I have cured many cases of long standing. I think I have relieved more patients with these two remedies than with all others.

ACONITE is indicated for the following symptoms: violent pain, limited to small spot above left supra-orbital ridge; violent lancinating pain in upper orbital border, extending

upwards across the forehead and into the malar region, worse on pressure; swelling of supra-orbital region; stupefying, drawing pain in left temple; pain in the eyeball, extending to supra-orbital region; lachrymation; redness and heat of face; throbbing pain in teeth of one side; shooting pains in the teeth.

ARSENICUM is particularly indicated in neuralgia of malarial origin, the left side of the head and face being affected.

The pain is burning and excruciating, and returns at regular intervals. The symptoms for which *Arsenicum* is especially indicated are: violent burning pain in left supra-orbital region; tearing pain in left side of the head; burning, stinging pain, as of red hot needles, worse in the afternoon; burning in the eyes; burning pain in the eyeballs, with feeling of heat; paroxysms of burning pain in the left temple and malar bone, lasting from ten in the morning until night, returning each day at same hour; suborbital pain in left side as of pricking of hot needles; tearing pain in left side of the face, extending to the temple; puffiness about the left eye; pain relieved by application of heat; great restlessness.

CINCHONA is adapted to cases of neuralgia which are the result of debility from repeated hemorrhages, long continued lactation, or repeated attacks of intermittent fever. It is indicated when the pain is in the infra-orbital and superior maxillary branches; is excessive and aggravated by the least touch or by draughts of air; decided periodicity of the pain.

IRIS has proved curative in many cases of that form of neuralgia known as sick headache. Its symptoms are: dull, throbbing, or shooting in right side of forehead, with nausea; shooting pains in the temples, mostly the right; neuralgia, involving supra and infra-orbital, superior maxillary, and inferior dental nerves, beginning about nine every morning and lasting several hours, finally *relieved by vomiting*. *Iris* is curative and preventive. *Neuralgic pain* in the *stomach* is an additional indication for its administration.

BELLADONNA.—Pain in the right side of head and face, with convulsive twitching of the muscles; shooting, tearing pains from the right side of the face up into the temple; headache above left orbit as if the brain was compressed, *aggravated by opening and shutting the eyes*; sharp, cutting pain in right side of the head as with a knife, running around to the forehead. The pains are worse from touch and motion, but relieved by hard pressure. Noise, light, concussion, and currents of air aggravate the pain. The paroxysms occur generally in the afternoon.

IGNATIA is indicated in *clavus hystericus*. The pain is confined to a small space, and feels as though a nail was being driven into the skull; pain as though something hard was pressed on the surface of the brain, recurring in paroxysms; pain at every pulsation of the carotids; pressing pain above the right orbit, at the root of the nose; pressive pain in the right side of the forehead, extending down into the right eye—it seems as though the right eye would be pressed out; burning in the eyes. *Forcing* and *pressing out* pain is characteristic of this medicine.

COFFEA CRUDA.—Hemicrania, with sensation as if a nail were being driven into the parietal bone; *clavus*.

COLOCYNTH is more particularly indicated in visceral and sciatic neuralgias, yet it is often curative in prosopalgia. It is indicated in neuralgias of the left side of the face, with tensive, tearing pain, with heat and swelling, relieved by the application of heat, and worse from touch and motion; burning and stinging pain in left side of face, extending to the ear and head.

GELSEMINUM.—Acute, sudden, darting, shooting pains in the orbit, attended with twitching of the muscles of the eye; *inability to raise the eyelid* on the side affected.

MEZEREUM.—*Mezereum* is best adapted to neuralgia of the dental branches of the superior and inferior maxillary nerves, especially when the *irritation arises from carious teeth*. The pain is chiefly on the left side, in the supra-orbital region, in the eyeball, cheek, and teeth, sometimes extending down to neck and shoulder; numbness in the region of the pain; *ciliary neuralgia*; twitching of the muscles of the cheek; pain more intense from the application of heat; parts affected are sensitive to touch.

The attack comes on daily, increasing from nine A. M. to twelve M., and then decreasing until four P. M. The pains come on *with great suddenness*.

PHOSPHORUS is indicated in neuralgia following nervous strain *from great mental exertion or excitement*; drawing and tearing pains in the temples; tinnitus aurium and vertigo accompanies the neuralgic attack; *aggravation* of the *pains* from every *movement* of the muscles of the face.

SEPIA.—Neuralgia of the fifth nerve, occurring during pregnancy or the menopause; paroxysms of hemicrania, with nausea, vomiting, and boring, sticking pain; congestion of the conjunctiva; lachrymation; pains like electric shocks darting through the temples.

SPIGELIA.—Tensive, tearing pain in left temple, extending toward the orbit; burning pain in the right side of the forehead, extending into the eye; pain on moving the eyes; jerking, tearing pain in right malar region; violent, fine stitches in the left temple, as if from electric sparks; pressive pain in the right side of the head, involving the right eye, deep seated, worse on motion, not relieved by pressure; violent, burrowing pain in the middle of the eye and inner canthus; burning pain in the left eyebrow; violent, pressive pain in the left orbital region; pain as if the left orbit were pressed from above downward; burning pain in right eyeball; sticking pain in right eyeball. *Spigelia* seems to be best adapted to *sticking, darting pains affecting* the temples, orbits, and eyeballs.

STAPHISAGRIA.—Like *Mezereum*, *Staphisagria* is indicated in neuralgias of dental nerves, excited by decayed teeth. Its symptoms are: pain in teeth, worse from slight, and relieved by heavy pressure; violent, tearing pain in the roots of the teeth; very fine needle-like stitches in the left malar bone, extending to the teeth; sharp, burning, needle-like pains in left temple.

THUJA.—Neuralgia of face from suppressed gonorrhœa or eczema; from syphilis; prosopalgia, at first daily from morning until night, afterward continuously, commencing in left cheek bone near the ear, and extending to the teeth, nose, eyebrow, eye, and temple; in the evening a pain like an electric shock is felt through the dental nerves, thence suddenly spreading out, with burning like fire; burning, tearing in the whole left side of the face; drawing pain in the muscles of mastication, increased by talking and chewing; salivation; spasmodic contraction of muscles while chewing.

MERC. CORR. is especially adapted to neuralgic pains of the face and jaws arising from syphilis. The pains are worse at night, and are accompanied by irritation of the salivary glands and tendency to perspiration; pain not relieved by perspiration.

Electricity has proved of most valuable assistance in the treatment of the various forms of neuralgia, particularly in chronic cases. The direct current should be used with the positive pole placed over the seat of the pain. The application should be made for at least half an hour continuously, and be repeated daily for several weeks.

Excision and section of the affected nerve has been practised, but it is of doubtful benefit, as the disease is pretty

sure to return, even if temporary relief follows the operation. It often fails entirely, for the reason that the lesion of the nerve is beyond the point of operation.

In addition to the specific treatment, suitable measures should be taken to promote the general health. Nutritious diet, moderate exercise in the open air, are essential, and remedies to remove debility, promote digestion, and relieve anæmic and malarial cachexias, must be given as circumstances require.

CERVICO-OCCIPITAL NEURALGIA.

This variety is situated in the first four cervical nerves, though the great occipital, a branch of the second cervical, is chiefly affected. These are distributed to the occipital and posterior parietal region, to the neck and lower part of the cheek, to the parotid region, and the external ear. It is frequently conjoined with neuralgia of the branches of the inferior maxillary nerve, particularly when it is of long standing, as the tendency is to spread towards the lower portions of the face. The tender points are where the nerves become superficial. The pain is not so severe as in trigeminal neuralgia.

Causation.—The causes are similar to those which induce facial neuralgia.

Treatment.—The remedies are: *Aconite*, *Belladonna*, *Causticum*, *Kalmia*, *Nux vomica*.

KALMIA is indicated in neuralgic paroxysms, occurring every afternoon, becoming worse at night; pain from back of neck to head, also affecting the right side of the face; the parts are tender to the touch; pain, shooting and darting, sometimes in spots, better from cold, worse from heat.

NUX VOMICA.—Intense pain in the occiput; sensation as if bruised in the occiput; tearing pain occurring in paroxysms in the nape of the neck; pain in one-half the head as if a nail were constantly forced deeper and deeper into the parietal bone.

CERVICO-BRACHIAL NEURALGIA

is situated in the nerves originating in the brachial plexus, comprising the interlacings of the five lower cervical and first dorsal. The affection varies in situation according to the particular nerve affected. It may be seated in the sub-clavicular space, along the whole length of the arm, and in

the mammary region. The tender spots are numerous but somewhat indefinite. The principal are the axillary, at the insertion of the deltoid muscle, the bend of the elbow, the back of the elbow joint external to the olecranon process, the annular ligament of the wrist, etc. The ulnar nerve is the most common seat of this variety, but it is rarely limited to this nerve. It is also often situated in the shoulder, and near the insertion of the deltoid muscle.

Symptoms.—The symptoms differ somewhat from those of facial neuralgia. The pain is often worse at night, and the paroxysms are not as severe. The pain is aggravated by muscular movement in a more marked degree, and is liable to be brought on by violent muscular exertion.

Causation.—The causes are: cold, violent muscular efforts, injuries, rheumatism, and malaria.

Treatment.—The remedies are: *Bryonia*, *Actæa*, *Rhus tox.*, *Arnica*, *Staphisagria*, *Electricity*.

BRYONIA.—I have found *Bryonia* curative in low potencies, 1st. or 2d. dec. dilution, in this variety of neuralgia, particularly when the ulnar nerve is affected. Its symptoms are: aching pain in the arm, above the elbow, with sensitive spot exterior to the olecranon process; pain in right elbow, with diminished power of motion; the pain extends to the shoulder joint, and is increased by movement of the arm; painful tension and pressure in the right shoulder; violent tearing pains in the right shoulder and upper arm, aggravated by the slightest movement.

ACTÆA.—Neuralgia of the mammary gland; intercostal neuralgia; sticking pain in left side, near the heart; aching pain in bend of the left elbow; pain in right arm, extending from shoulder to wrist.

RHUS TOX. is indicated when the complaint is brought on by exposure to cold and damp; sticking pain in region of the heart, with numbness and lameness of upper left arm; tearing, burning pain in shoulder and upper arm, worse in cold, wet weather, also worse at night.

ARNICA is indicated if the disease results from injury to the nerves. Its symptoms are: violent twitching pain in the left shoulder; tearing pain in the fingers and balls of the thumb; stinging and pricking in the affected parts.

STAPHISAGRIA.—Dull, sticking pains in the shoulder, worse on motion; stitches in the axilla; pressing pain in left upper arm, aggravated by motion; sharp stitches in the region of fourth costal cartilage from within outwards.

ELECTRICITY.—The direct current should be used for a considerable period at each application, applying the positive pole to the seat of the pain. Use daily, and for fifteen to thirty minutes at a time.

CRURAL NEURALGIA.

Valleix, in his classification, mentions this as one of the varieties of neuralgia. It is an exceedingly rare affection. In its causation, symptoms, and treatment it very much resembles sciatic neuralgia, and, therefore, will not call for special consideration.

SCIATIC NEURALGIA.

(Synonym, SCIATICA.)

This variety affects the sciatic nerve and its branches, principally those distributed to the skin. The pain may be confined to the gluteal region and upper part of the thigh, or may extend the whole length of the limb. The principal tender spots are at the emergence of the cutaneous branches on the hips, the points corresponding to the emergence of the great and small sciatic nerves from the pelvis, several along the posterior aspect of the thigh, one at the head of the fibula, and one each for the external and internal malleolus.

Sciatica generally begins with a dull, heavy pain, extending from the nates down the posterior part of the thigh, and along the branches of the nerve. In the majority of cases the pain does not extend below the knee. It gradually becomes more and more severe, and is aggravated by movement. The patient suffers from paroxysms of great intensity, and these occur with greater or less regularity; darting pains like electric shocks sometimes shoot through the nerves. Muscular contraction, convulsive movements of the muscles, cramp, and anæsthesia are symptoms frequently observed.

Sciatica is a disease more apt to occur in middle and advanced life than in youth. Out of one hundred and twenty cases collected by one observer but four occurred prior to the age of twenty, while sixty-five cases were between the ages of twenty and fifty. The disease occurs oftener in males than in females.

One attack of sciatica is very liable to be followed by a recurrence of the disease after any exposures or indiscretion

in living. The nerve is apt to remain irritable and sensitive, and is liable to an acute outbreak under slight provocation. It is seldom that the affection is so thoroughly cured but that the patient is reminded by twinges and dartings of pain that his nerves are not entirely quiescent.

Causation.—Debility, anæmia, and premature decay of the vital powers are predisposing causes. Exposure to cold and damp, violent muscular exertion, pressure on the nerve from prolonged sitting on hard chairs, enlarged prostate gland, syphilis, etc., are among the causes liable to produce the disease.

Diagnosis.—The diagnosis presents no points of difficulty.

Prognosis.—This depends upon the age and general condition of the patient. The majority of cases are curable in two or three months. The most intractable cases are those which occur after middle life in persons affected with anæmia and debility, or on whom depressing influences have been long at work.

Treatment.—The remedies are: *Arsenicum*, *Colocynth*, *Rhus tox.*, *Bryonia*, *Hypericum*, *Ruta*, *Ranunculus*, *Ledum*, *Phytolacca*, *Gnaphalium*, *Cocculus*, *Electricity*.

ARSENICUM is indicated if the affection can be traced to malarial poisoning; that is, if the patient has been subject to repeated attacks of intermittent fever, and the pain is intermittent. Its indications are: violent, drawing, tearing pain in left hip; severe pain extending along the great sciatic nerve, worse at night; burning pain in thigh, attended with great restlessness, relieved by warm applications.

COLOCYNTH.—*Colocynth* has effected many brilliant cures of sciatica. Hempel mentions a case of a youth of twenty years of age who had suffered from neuralgia of the sciatic nerve for several weeks. The pains were of a lancinating character, flashing along the whole tract of the nerve whenever an attempt was made to raise the limb. A drop of the tincture of *Colocynth* in water effected a prompt and permanent cure. *Colocynth* is indicated in the following groups of symptoms: dull stitches in right hip suddenly appearing, extending down the posterior part of the thigh into the popliteal space; tearing pain down the posterior part of thigh and leg into the foot, beginning in the morning and disappearing at night, worse from motion and pressure; cramping pain in the affected hip as though the parts were screwed in a vise; drawing pain in right thigh down to the knee; sticking, drawing pain along the left tibia, with cramp in the muscles

of the calf; shooting pains in sacral region, aggravated by the slightest motion; cutting pains from hip to knee; darting pains from sacrum to heel, worse at night; numbness in the leg.

RHUS TOX. is adapted to cases brought on by exposure to cold and wet, or from muscular exertion. Numbness and paralytic feeling are generally present. The pain is worse during rest—frequent paroxysms of cramp in the muscles of the leg; soreness of the muscles of the thigh; dull, aching pain in right leg, worse at night and in cold damp weather; numbness and formication in right thigh.

BRYONIA.—Stabbing pain in the hips; severe pain in right thigh; severe pain at inner side of right knee. The pain is worse from motion.

HYPERICUM is indicated in sciatica produced by falls, injuries, etc.

RUTA.—Severe deeply seated pain in thigh—pain during the paroxysm is increased by sitting or lying down; burning, stinging pain, worse in cold damp weather; feeling of contraction in the muscles of the thigh; sciatica after injuries, contusions, etc.

LEDUM.—Drawing pain in the hip, extending down the posterior part of the thigh, together with numbness of the parts; coldness of the affected limb; pain beginning in the foot and extending upward; pain in the knees as if beaten; the pains are worse at night, and from touch.

PHYTOLACCA.—Pains on the outer side of left thigh; drawing, shooting pain in right thigh; constant, dull, heavy pains in the lumbar and sacral regions; shooting pains from sacrum down to the feet.

GNAPHALIUM.—Allen says that in a proving on himself the drug produced intense pain along the sciatic nerve, which continued along its larger ramifications. General Norris, who was suffering from an attack of sciatica when he commenced the proving of *Gnaphalium*, was completely cured of it.

COCCULUS.—Shooting pains like electric shocks down the whole limb, with paralytic feeling; severe drawing pain in the knee; dull, wave-like pain down the outer side of the left leg.

ELECTRICITY has proved of decided benefit in chronic cases of sciatica. It should be applied in the same manner as in the other forms of neuralgia.

Cutting down on and stretching the sciatic nerve grew into

great favor with surgeons a few years ago, and the operation was esteemed almost certainly curative, but it has at the present time fallen into disuse.

As palliative measures to relieve the intolerable pain, hypodermic injections of *Morphia* deep into the tissues surrounding the nerve, acupuncture, and electro-puncture, are highly recommended by many writers. It is claimed that not only is the patient relieved by these measures, but frequently permanently benefited.

CHAPTER XIII.

INSANITY.*

INSANITY—DEFINITION—PATHOLOGICAL ANATOMY—CLASSIFICATION—FORMS AND SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGY—MORAL TREATMENT—MEDICAL TREATMENT.

Definition.—Insanity always arises from a disturbance of the normal functions of the brain, and may either be a symptom of primary disease of that organ, or, as is more frequently the case, may be due to secondary functional disturbance, the cause originating at some distance from the brain. Whichever it may be, the term insanity is not a proper object for definition as a disease, nor is it possible to give it such a meaning as will cover all possible morbid cerebral manifestations, and yet not include those cases of brain disease which do not properly come under that head. According to Hammond insanity “is a manifestation of disease of the brain, characterized by general or partial derangement of one or more of the faculties of the mind, and in which, while consciousness is not abolished, mental freedom is prevented, weakened, or destroyed.”

Maudsley says insanity consists “essentially in a morbid derangement, generally chronic, of the supreme cerebral centers—the gray matter of the cerebral convolutions, or the intellectorium commune—giving rise to perverted feeling, defective or erroneous ideation and discordant conduct, conjointly or separately, and more or less incapacitating the individual for his due social relations. We may safely go so far as to affirm the mind centers to be in the vesicular neurine of the convolutions, and insanity to consist essentially in disorder, primary or secondary, of their functions—in disordered feeling, disordered intellect, and disordered will.”

Pathological anatomy.—The following general summary of the morbid appearances met with in cases of insanity is taken from Schroeder van der Kolk, than whom there is no more eminent authority: When the patient has died at the beginning of acute insanity, and the *pia mater* is stripped off, the cortical layer will exhibit unequal coloration—certain

* In the preparation of the article on Insanity I am indebted for valuable assistance to Prof. A. C. Cowperthwaite, of the Homeopathic Medical Department of the Iowa State University.

convolutions being rosy, others pale. The differences are often detectable only by careful observation. They are the results of great congestion or commencing inflammation, and are found more often in those who have died of typhus fever or after acute delirium than in insanity, because death but seldom occurs at an early stage. After a longer duration the disease appears to pass into a chronic inflammation. There is some difficulty in stripping off the *pia mater*, the vessels of which are strongly injected, from the surface of the brain, and portions of gray matter are sometimes brought away with it. More or less exudation commonly occurs between the arachnoid and the *pia mater*, and the former may form a thick, white, opaque layer, through which the convolutions are scarcely visible. After a still longer duration, when dementia is thoroughly established, there is no longer any increase of vascular injection. The vessels are less full than natural, and the *pia mater* may even, in some cases, be stripped off with more ease than in health, a clear serous fluid flowing away the while; the gray substance appears pale or anæmic, and somewhat atrophied; and the vessels, especially at the base of the brain, are beset with atheromatous patches. The degeneration extends into the ventricles, the lining membrane being thickened, and sometimes covered with fine granulations, and more or less fluid being effused into them. The membrane covering the *corpora striata* is most thickened, and cannot, as a rule, be stripped off without leaving the commonly softened nerve substance beneath; this particular change being declared during life by paralytic symptoms, such as the trembling of the lips, difficulty of articulation, and uncertain walk.

In addition to the foregoing morbid appearances it is said that the weight and specific gravity of the brain is increased in the insane, but farther experiments are yet needed to render these observations certain. Microscopical examinations are fast adding to our knowledge of cerebral pathology, and it is to be hoped that the day is not distant when a distinct pathological basis may be afforded for insanity as for other diseases.

According to Maudsley there are three principal stages in the degenerative process of cerebral disease: (1) a change in the vessels, hindering nutrition; (2) atrophy of the nerve element, either from imperfect nutrition (*Kindfleisch*), or from the growth of connective tissue (*Rokitansky*); and (3) the subsequent metamorphosis of the connective tissue. The

same author enumerates the following different kinds of degeneration: (1) an early stage of *inflammatory degeneration*, or an acute hyperæmia, occurring in the most acute forms of insanity; (2) *connective tissue degeneration*, in which there is an increase of connective tissue, and an atrophy of the nerve elements; (3) *fatty degeneration*, either occurring in the smaller vessels of the brain, or in the proper nerve elements, or in the new morbid products; (4) *amyloid degeneration*, in which *corpora amylacea*, or little starch-like bodies, are found in great numbers in the brain; (5) *pigmentary degeneration*, met with in the ganglionic cells of the brain in senile atrophy; (6) *calcareous degeneration*, in which there is not only a calcification of some of the ganglionic cells of the brain, but also granules of earthy matter found in the hypertrophied connective tissue of long continued and extreme cases of insanity.

Classification.—While any classification of the various phases of insanity is necessarily arbitrary, vague, and artificial, yet some form of classification is indispensable for practical purposes. That given by Pinel is the simplest, and, for this reason, most satisfactory, being as follows: 1, *Mania*; 2, *Melancholia*; 3, *Dementia*; 4, *Imbecility* and *Idiocy*. Esquirol adds to this classification *Monomania*, and still later investigations warrant us in adding *General Paralysis of the Insane*. So that we may, for practical purposes, divide insanity as follows: (1) *Mania*; (2) *Monomania*; (3) *Melancholia*; (4) *Dementia*; (5) *Idiocy* and *Imbecility*; (6) *General Paralysis of the Insane*.

Forms and symptoms.—1. *Mania*.—This is a condition in which the perversion of understanding embraces all kinds of objects, and is attended with mental excitement. This division covers all those symptoms which may arise from an inceptive maniacal state, involving slight delirium and moral perversion, to the acute mania, maniacal fury, or raving madness. In the former the moral alienation is most characteristic, to that extent that some authors make it a distinct division, known as moral insanity. There is excessive derangement of the affective life. Indifference takes the place of affection, the parsimonious become extravagant, and modesty gives way to forwardness and the evidence of exalted self esteem. The sexual appetite is excessively depraved, and the patient is subject to illusions and hallucinations, together with morbid impulses, which may be of a suicidal or homicidal nature. Acute mania is usually preceded by symp-

toms such as have been given, or by those of a more distinctly depressing character, the patient passing gradually into the true type of distinctive mania. The depression is followed by an incoherent restlessness; the patient wanders from place to place, and becomes turbulent and unmanageable. Insomnia is present, or the sleep is dreamy and restless. The actions and appetites become extravagant. The patient is loquacious, laughs immoderately, sings, dances, gesticulates, tears the clothing, and performs all sorts of antics and grotesque movements, or may be employed in various imaginary occupations. The appetite becomes ravenous and indiscriminate, the sexual passions unrestrained and indecently expressed. Transitory illusions, hallucinations, delusions, and impulses sometimes chase each other with startling rapidity. The pulse is scarcely changed, except in the first stage, and the temperature only slightly increased, save when typhoid symptoms intervene, which is not infrequently the case. Constipation is nearly always present, though sometimes there is diarrhœa.

Nothing definite can be said as to the course and prognosis of mania. An attack may only last a few hours, or may continue for months, and may recur at more or less regular intervals. The prognosis is usually unfavorable after six months have passed, especially so when the intervals between the attacks are only partially lucid, or are melancholic. The longer the disease lasts, the more unfavorable is the prognosis. If the patient does not die from maniacal exhaustion, or from some intercurrent affection, the disease usually passes into dementia, and a fatal termination is only a question of time.

2. *Monomania*.—Monomania is a partial mania, or a perversion of the understanding limited to a single subject or a small group of subjects, embodied in a fixed delusion, with predominance of mental excitement. This delusion usually partakes of a character representing an excessively exaggerated self esteem, the patient arrogating to himself great personal power and grandeur, either social, religious, or political, the delusion often being in accordance with the circumstances which surrounded the patient, and which may have caused the mental derangement. He may be king, prophet, or priest, or, instead, he may inaugurate vast plans, projects, and speculations, or undertake the accomplishment of wonderful scientific inventions. Accompanying the fixed delusion there may be illusions and hallucinations infinite in variety, the symptoms being in accordance therewith.

Monomaniacs sometimes, but rarely, recover, it being con-

sidered that in such the morbid action is deeper than in either mania or melancholia, the tendency being toward dementia and finally death.

3. *Melancholia*.—In melancholia the most essential feature is the predominance of sadness and depression of mind to a painful degree, causing intense mental suffering. The events of life are all perverted, and the patient sees only disaster and ruin where all is prosperity; friends are enemies in disguise, and justice only waits to punish him for his imaginary crimes. He may have committed the unpardonable sin, and only sees before him the torments of an endless damnation. Thus, the varieties of melancholia are as endless as are the phases of mental suffering, and admit of no practical classification, though Maudsley divides it into (1) *Lypemania*, where there is a definite delusion, and (2) *Pantophobia*, where there is no definite cause of terror, but a fearful apprehension of everything possible and actual. Hypochondriasis is but a mild form of melancholia, in fact, most mental derangements which arise from functional disturbance of some organ other than the brain are usually of the melancholic character, as we may notice in the insanity which is apt to occur at the climacteric, or during pregnancy or lactation, but this observation does not hold good in puerperal insanity, which is usually maniacal in its character. Morbid impulses of a destructive character, both homicidal and suicidal in their nature, are apt to accompany melancholia, the impulse not being so sudden in its manifestation as in mania, but arising as a natural consequence of the morbid mental suffering, which may constrain to a deed of violence, possibly for the expiation of one's own sin, or for the public good; in such instances the deed being usually planned and carried out with astonishing ingenuity.

Those suffering with melancholia may recover, but not usually when the disease has lasted any length of time. The tendency is to a chronic condition, which may last for many years, or, passing into dementia, follow the same course as other forms of insanity when reaching this condition.

4. *Dementia*.—This is a condition in which those affected are incapable of reasoning, from the fact that the organs of thought have lost their energy and the force necessary for performing their functions. This usually occurs from protracted mental disease, being a condition of mental decay or degeneration, the mind at last, wearied with its struggles for supremacy, having become a vast blank, there being an entire

absence of intellect, and an incapacity for performing any rational action; patients often losing even the instincts of beasts, their lives being purely vegetative. Such is secondary dementia. By acute dementia is meant that condition, of a similar character, which sometimes follows fevers, moral shocks, or physical injuries, and which, fortunately, is of comparatively short duration. Senile dementia is that form so often recognized in old people, characterized by great weakness of mind and total loss of memory, especially for recent events. The patient living in the distant past converses with those long since dead, and the present is entirely lost in the events of former years.

Persons suffering with acute or primary dementia usually recover, but in secondary dementia the opposite is invariably the case, and, if not carried off by pneumonia, tubercle, or some other disease, they finally succumb to the original malady.

5. *Idiocy and Imbecility.*—These represent a condition in which the brain is not sufficiently developed and conformed to permit those afflicted to reason correctly, their difference being only in degree. In idiocy the arrest of development takes place during foetal life or immediately after birth, while in imbecility it may occur at some period subsequent to birth, often following some diseased process. The mental condition varies from that termed “simple minded,” hardly amounting to imbecility, gradually downward through different phases of mental weakness, until we reach extreme idiocy, when intelligence is entirely wanting, the patient being completely helpless, and utterly unable to speak a word or perform an intelligent act. The physical development is also defective, and often the special senses, one or all, are very weak or entirely absent.

Idiots usually die young, being generally carried off by some acute or chronic disease which they had not the vitality to resist. Their condition may often be improved by persistent effort in training, but a normal condition can never be attained.

6. *General Paralysis of the Insane.*—This is a form of insanity characterized by a progressive diminution of mental power, accompanied by an equally progressive paralysis of the muscular system. It is not a condition necessarily following an attack of insanity, as its name might indicate, but is a distinct affection, recognized only by its own characteristic features.

The motor symptoms are: first, a peculiar paralytic affection of speech, a difficulty of articulation, especially of the consonants, and, secondly, a peculiar want of muscular co-ordination, which is shown by the staggering gait, the patient being unable to properly raise the feet or put them down, or to accommodate his steps to the inequalities of an uneven pathway. The loss of muscular co-ordination is also seen in the inability to perform any acquired automatic acts, such as writing or sewing, and the power to execute any ordinary muscular movement is lost. The special senses are weakened, and cutaneous sensibility is destroyed. These conditions become gradually worse, until at last the sphincters become involved, and involuntary muscular action is totally destroyed. Accompanying this we have the mental derangement, which is commonly marked by an overweening self-esteem, displaying itself by extravagant ideas of personal power and importance, which they endeavor to impress on all around them, being prone at all times to the most extraordinary exaggerations in their conversation. Occasionally this characteristic mental condition is not present, but a gradually increasing dementia takes its place.

The prognosis of general paralysis is unfavorable. Sometimes patients may be relieved in the first stages by proper treatment, and the evil day be put off, but it comes sooner or later, and the patient dies in epileptiform convulsions or from dementia.

Causation.—The causes of insanity are as numerous as are the varieties and shades of the disease itself, and can only be expressed in a general way. A close study might enable the physician to divide these causes into hereditary, predisposing, and exciting, yet these will so often be found in combination that a practical division is useless.

Aside from hereditary predisposition, which is an important and frequent etiological factor, we would refer to those conditions which are considered predisposing in their character; as, for instance, the mental strain consequent upon the duties imposed by an active civilization; the bad effects of a climate characterized by dull, dreary weather; the influences of a pernicious moral education; a nervous temperament, especially in the female sex, who are more prone to insanity than males. The exciting causes may be divided into physical and moral, the latter being far more numerous. Of the former we would notice, particularly, injuries to the head; tumors in the brain; intemperance; the opium habit; the

use of tobacco; dissipation; masturbation; deranged sexual function; pregnancy, the puerperal state, and lactation; intense study or application to business; chronic diseases; the presence in the system of some other form of nervous disease, as epilepsy, chorea, or neuralgia. The moral causes are almost numberless—loss of property, disappointed affections, domestic difficulties, grief, fright, loss of friends; in short, any cause producing violent emotion or severe mental strain, other conditions being favorable, may produce insanity.

Diagnosis.—Delirium tremens, feigned insanity, and eccentricity, are, perhaps, the conditions most likely to be confounded with insanity. Acute meningitis, with acute delirium, has been mistaken for acute mania, but the high temperature and febrile excitement present in such cases is usually all that is required to perfect a diagnosis.

In delirium tremens the characteristic effects of alcoholism are present—the smell of the breath, imperfect utterances at the outset, muscular tremors, peculiar fearful illusions and hallucinations, clammy perspiration, rapid pulse, etc., and, quite important, also, the fact that after a deep sleep the patient awakens refreshed and much better, while in mania they awaken as wild and violent as ever.

To establish the sanity of an eccentric person or an impostor becomes a much more difficult task, and it is here the services of an expert alienist are most often required. It is quite important in such cases to consider all the accompanying circumstances, especially the hereditary predisposition, and the presence of those predisposing and exciting causes which have already been enumerated. It also is necessary to become informed respecting the natural habits, character, and disposition, of the patient. He must be compared with himself when in a state of health, that it may be observed whether the present condition is an absolute change from the normal standard, or whether it is only due to an aggravation of the personal peculiarities and idiosyncracies which render a man eccentric. True it is that there is more or less connection between insanity and eccentricity. It has been observed that in families where one or more of its members were insane, others of the family have been eccentric; and, further, that eccentricity often culminates in insanity. Monomaniacs are often eccentric in their whole conduct, and it is said that after repeated recoveries from insanity the individuals have remained eccentric during life. However, it cannot be held on this evidence that such persons are insane, but only that,

other things being equal, eccentricity involves a greater than usual susceptibility to mental derangement. If, without apparent cause for so doing, the sober man becomes dissipated, the prudent man rash and extravagant, the moral or religious man dissolute, the modest woman shamefully indecent, there can be little question of the presence of cerebral disease; yet, as previously remarked, search should be made for any predisposing causes that might operate in a natural way to produce these changes. They are but a lack of control over the affective and intellectual faculties, which are by nature depraved, and which depravity is only restrained by moral and religious principles. The question to decide is, whether the lack of will power is the subject of disease, or of natural causes.

It is necessary to conduct the personal examination of the patient with the greatest tact and discretion. It will not do for the physician to at once attack the citadel of disease by such leading questions as might not be inappropriate and unusual in other diseases. The patient, as well as the family, is usually quite sensitive concerning any allusions to insanity, and if the former's suspicions are at once aroused it will be quite difficult to discover his real mental condition. The physician may nearly always engage the attention and good will of the patient if he will only employ that sympathy and tact derived from good sense and a knowledge of human nature, which is often appreciated as plainly by the diseased mind as by others.

In entering the presence of the patient the physician should avoid a marked and obvious attention in his observations of the expression, demeanor, etc., but should assume a quiet indifference, though it must be done in a natural manner, or the unfitting mask will at once excite the patient's suspicions. While, to all appearances, indifferently conversing on the most foreign topics, the observing physician may study the physiognomy and gestures of the patient, and find in them much valuable aid; the eccentricity of the dress, from mere disorder to total nudity, or absurd peculiarities of arrangement in shape or color, so often present, may also assist him in forming an opinion as to the condition of mind, but here, as elsewhere, no established rules or symptoms can be given. Each individual case must be studied by itself, and nothing but experience, and a thorough comprehension of the peculiarities of diseased mental action, will prove unfaltering aids. After the physician has, by ordinary conversation on any sub-

ject, tested the attention, memory, and judgment, Dr. Backnill says: "The patient may be led to give an account of his own powers of body and mind, with reference to health, to exercise, diet, and study. Thousands of delusions are entertained by insane people upon these subjects. He may then be led to converse respecting his possessions, his means of livelihood, and his hopes of advancement in rank or property. Such conversations will open up the delusions of pride, ambition, and acquisitiveness. He may then be led to converse of his near relatives and friends, and especially respecting his birth and parentage, stress being laid upon his belief whether his parents were his actual and real parents. The inquiry will tend to open up any delusions respecting imaginary greatness, and any perverted emotions towards those who ought to be dear to him. The subject of religious opinion may then be introduced. The religious devotions and exercises which he practices may be inquired into, with the reasonable expectation of finding insane delusions on a subject which touches the deepest sentiments of the soul. If the patient is an educated man, it will be right to converse with him upon politics and science. If he can stand the test of a discriminating inquiry on these and similar subjects he certainly cannot be the subject of mania, and if he has any delusions he must either retain the power of hiding them, or they must exist in some obscure corner of the brain from which they are little likely to influence, with any force, the opinions, the feelings, or the conduct."

It sometimes becomes necessary to distinguish between insanity and some other form of cerebral affection, which usually is a matter of but little trouble. The greatest difficulty will be found in those cases where an impostor attempts to simulate it, or a drunkard actually does so. "Certainly he must be a clever impostor," observes Maudsley, "who can simulate the wild restless eye, the ceaseless movements, the quick fragmentary associations of ideas, and the volubility of utterance, of acute mania, so as to deceive an experienced observer; nor can he, however skillful an actor, pass days without sleep, maintaining a continued activity, as the acute maniac does. The skin, in acute mania, is dry and harsh or cool and clammy, but the skin of the pretender who tries to keep up a prolonged muscular agitation will hardly fail to be hot and sweating. Chronic mania is most likely to be feigned, and, if feigned with skill, the imposture may deceive many. However, this imposture generally oversteps the modesty of

nature, and overacts his part; he is extreme in the extravagance of what he does, while he falls short of his part in the emotional expressions in his maniacal countenance. Thinking that a lunatic is widely different from a sane person he exaggerates, and rants, and produces something not like a lunatic. He pretends, perhaps, that he cannot remember things, as what day follows another, or how many days there are in a week, that he cannot add the simplest figures together, and acts foolishly, and answers stupidly, where a real lunatic, who was not an idiot, would act calmly and answer intelligently. If a suggestion be made incidentally of some symptom which he ought to exhibit he may adopt the hint. The history of the case, and especially of the mode of occurrence of the disease, and of the circumstance of its development, will most materially aid the diagnosis. If there be no previous history to be had, and if the patient refuse to converse, a long observation may be necessary to come to a decision. When a man feigns madness so perfectly as to deceive an experienced observer, we may hold, I think, that he is not far from being the character he represents; for, unless there be a foundation of real madness beneath the feigned phenomena, there will be some want of coherence in them as a whole, and an incongruity with any known form of mental disease."

The question of insanity having been established, it will not be difficult to decide as between the different forms of insanity if we keep in mind the characteristics of each.

Prognosis.—We have already briefly referred to the prognosis of the different divisions of insanity. It should be especially borne in mind that insanity is curable in direct ratio with its duration. Acute cases are often amenable to treatment, and excellent results frequently follow the administration of the proper homeopathic remedy in chronic cases, sometimes a radical cure being secured, but it is safe to say that the farther we pass the third or fourth month the more difficult will it be to effect a cure. Insanity in young persons is more easily cured than when occurring in old people. The presence of a strong hereditary predisposition also greatly weakens the patient's chances of ultimate recovery, and a relapse is almost sure to occur in those who are victims of an innate vice of constitution or a defective nervous organization.

Pathology.—Assuming it to be a settled fact that the brain is the seat of intelligence and volition, we must naturally and correctly infer that any loss of intelligence, or

derangement of mental action, must, in some measure, be due to a diseased condition of that organ, and we might, with equal reason, expect to invariably find post-mortem evidences of the truth of our inference. This, however, is not the case, as it is often impossible to discover after death any organic lesions of the brain whatever, and this is the reason that some deny that insanity is a material disease, and consider it to be an affection of the immaterial principle. Yet we find that in diseases of other organs pathological changes are also often absent, though the presence of actual disease in these cases is not questioned. Because no pathological changes are found, is no sign that nerve element does not subserve mental function. Serious disintegration of nerve element may occur from various causes without any discoverable pathological changes. For instance, as a result of excessive or prolonged mental exertion the brain may become, for a time, entirely incapacitated for further function, but without any visible transformation of nerve substance, though an increase of phosphates in the urine testifies to its disintegration. The lightning's stroke may produce instant death, or leave its indelible mark in a shattered constitution and disordered nervous system, yet, in neither case, does the scalpel or microscope reveal any pathological change. However, our remarks on pathological anatomy illustrate the fact that dissections are affording some evidences of pathological change in mental disease, and when we remember the limited knowledge of brain anatomy possessed by pathologists in the past we may safely conclude with Dr. Ray that "the absence of these changes might be attributed, in not a few instances, to the fault of the inquirer rather than to the nature of the disease."

In insanity, as in other diseases, irritation is the initial stage of disease, and constitutes the first link in a chain of events, of which disorganization and destruction are the last. During this state of irritation, structural changes are wanting, and should death occur from any cause whatever, even though the functions were seriously, perhaps fatally, deranged before the onset of the subsequent stages, there could be found no pathological traces whatever. This stage of irritation, should it affect the physical forces but little, as is usually the case, may endure for years sufficiently strong to excite a morbid mental action, and still death result before any structural changes had occurred.

The more we come to know of insanity, in all its relations, the more it is robbed of its metaphysical aspect, and the more

does it appear to us as a material disease, notwithstanding ignorance and superstition have ever succeeded in throwing around it an air of mystery. It observes the same pathological laws as other diseases; it follows the same course of incubation as other diseases, sometimes approaching insidiously, at other times breaking out without any warning; its development presents nothing strikingly peculiar as it merges into its most dangerous form, neither does its termination in death or resolution, either suddenly or gradually, present any remarkable features different from the same in other diseases. Sometimes proceeding through the successive stages to the end with increasing severity, or interrupted by intervals of a longer or shorter duration. These intervals or apyrexia may either be remittent or intermittent—in the former the mental excitement being only modified and less violent; in the latter the patient seems entirely restored, and possessed of a sound mind. It never arises from an immaterial or strikingly peculiar cause, but its etiology is analogous to that of other diseases, and may nearly always be discovered by a careful examination. These oft repeated observations, together with the fact that it often yields to a judicious medication and hygienization, and this, also, in proportion to the recency of the attack, gives positive evidence that insanity is a bodily disease, and in no way anomalous to established pathological principles.

A continual vitiated state of the blood may, by its poisonous influence over nerve element, tend to degenerate and destroy nerve function, as we may well know by the condition thus established in the course of acute fevers and malignant diseases, the non-elimination of waste material in the blood acting in the most baneful manner upon the nerve centers. Poisoned blood cannot subserve the proper performance of the actions of the ideational centers. It requires healthy blood to insure the evolution of normal thought; just as in the liver, pure blood is requisite for the production of normal bile. So, too, may hyperæmic and anæmic conditions of the brain produce irritation of nerve element, and, if long continued, result in derangement of nerve function.

The influences of reflex irritation in the production of mental derangement must not be overlooked. Illustrations continually abound of persons who suffer or who have suffered from insanity due to disturbance in some organ other than the brain. This is especially notable in those cases in women resulting from uterine or ovarian disease, the cure of the latter usually restoring the mental health.

Whenever a predisposition to insanity exists, it may be induced by the excessive functional activity of any part, but especially of the brain itself. Excessive wear and tear of nerve tissue, producing irritation of nerve element and consequent sleeplessness, is a prime factor in the production of insanity, and, in such cases, brain rest and sleep will prove efficient prophylactics.

Moral treatment.—Three quite important elements are necessary to the successful treatment of insanity: 1, no restraint; 2, open air; 3, association with healthy minds. Neither of these is attainable where hundreds, even thousands, of invalids are assembled under one roof, and the whole air is saturated with insanity. The crowding together of large numbers of insane persons, of different forms and shades of disease, in one building, and restraining them there as prisoners, behind bolts and bars, to say nothing of the more or less constant cruelty of ignorant and inhuman keepers, is prejudicial to the true interests of the unfortunate sufferers, and cannot fail to deepen the seeds of disease rather than to bring about a natural and healthy condition of the mental functions.

It is often the case that an insane person must be removed from the midst of those surroundings and circumstances under which the disease has been produced and fostered, and if such are not able to travel, or cannot procure board in a private family who will properly care for them, it may be necessary to send them to an asylum. So, also, are there cases of furious mania, and those in whom suicidal or homicidal impulses have occurred, in which restraint in a properly conducted asylum is quite essential, and, in fact, often absolutely necessary, but for the large army of harmless and docile patients confinement is an injury as well as a cruelty. A desirable end to be attained is a combination of the asylum and open air treatment. Having a central building or asylum for necessary restraint, and where patients may be received and detained until the nature of the malady is determined, and, contiguous to this building, cottages where docile patients may be apportioned, and while being under strict supervision, and subject to gentle and judicious treatment, may be engaged in the ordinary occupations of life, and enjoy all the pleasures and benefits of a home. By this arrangement room would be made for the admission of acute cases that demand immediate medical treatment, yet are often compelled to stand so long without, knocking at the door, that the period of possible cure is passed, and they go to swell the army of hopeless lunatics.

Medical treatment.—The medical treatment of the insane is of far more importance than is usually considered by the dominant school of medicine. The production of mental symptoms in provings, and their cure by the application of the law of similars, constitutes one of the happiest results of Hahnemann's doctrines, and nowhere else is their truth more clearly demonstrated. Hahnemann always laid great stress upon the value of mental symptoms in the treatment of all diseases, and his followers have abundantly proven the truth of his observations. Many cases considered incurable under the *regimen* of *Opium*, *Digitalis*, *Chloral*, etc., readily yield to the mild but beneficent influences of homeopathic medication. Great care must be taken to select the strictly homeopathic remedy by careful individualization of each case. I can only name the remedies chiefly used, referring the reader to the *Materia Medica* for their further study. They are:—

Acon., *Actea rac.*, *Agaric.*, *Agnus*, *Ambra*, *Anac.*, *Ant. crud.*, *Apis*, *Arg. nit.*, *Arsen.*, *Aurum*, *Baryta*, *Bell.*, *Calc. ost.*, *Can. ind.*, *Cicuta vir.*, *Cocc.*, *Coffea*, *Con.*, *Gels.*, *Hyos.*, *Ign.*, *Lach.*, *Lyc.*, *Merc.*, *Moschus*, *Nat. carb.*, *Nat. mur.*, *Nit. ac.*, *Nux mos.*, *Nux vom.*, *Opium*, *Phos.*, *Phos. ac.*, *Plat.*, *Puls.*, *Rhus*, *Sepia*, *Staph.*, *Stram.*, *Sulph.*, *Thuja*, *Verat. alb.*, *Verat. vir.*, *Zinc.*

Acute mania, *Agar.*, *Anac.*, *Bell.*, *Can. ind.*, *Cic. vir.*, *Coffea*, *Hyos.*, *Lach.*, *Moschus*, *Opium*, *Plat.*, *Stram.*, *Ver. alb.*, *Ver. vir.*

Melancholia, *Acon.*, *Actea*, *Ant. cr.*, *Apis*, *Aurum*, *Cinch.*, *Cocc.*, *Con.*, *Ign.*, *Lyc.*, *Merc.*, *Nat. mur.*, *Nitric ac.*, *Nux mos.*, *Nux vom.*, *Phos.*, *Phos. ac.*, *Puls.*, *Rhus*, *Sepia*, *Staph.*, *Sulph.*, *Thuja*, *Zinc.*

Dementia, *Agnus*, *Ambra*, *Baryta*, *Calc. ost.*, *Con.*, *Phos.*, *Phos. ac.*, *Zinc.*

Religious mania, *Ars.*, *Aurum*, *Verat. alb.*

Mania de grandeur, *Lach.*, *Plat.*, *Stram.*

Insanity from deranged sexual health.—In women, *Actea rac.*, *Apis*, *Cocc.*, *Helon.*, *Ign.*, *Lach.*, *Lil.*, *Nux mos.*, *Plat.*, *Puls.*, *Sepia*. In men, *Agnus*, *Ambra*, *Con.*, *Nux vom.*, *Phos.*, *Phos. ac.*, *Staph.*, *Thuja*.

From intense study, *Nux vom.*, *Phos.*, *Sulph.*

From disappointed love, *Hyos.*, *Ign.*, *Phos. ac.*

From fright or grief, *Acon.*, *Actea rac.*, *Gels.*, *Hyos.*, *Ign.*, *Nux vom.*, *Opium*, *Phos. ac.*

From injuries on head, *Arn.*, *Cic.*, *Rhus*.

From cerebral congestion, *Bell.*, *Stram.*, *Ver. vir.*

SECTION FIFTH.

DISEASES OF THE GENITO-URINARY SYSTEM.

CHAPTER I.

DISEASES OF THE BLADDER.

ACUTE CYSTITIS, OR INFLAMMATION OF THE MUCOUS COAT OF THE BLADDER—CAUSATION—SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT. CHRONIC CYSTITIS—SYMPTOMS—CAUSATION—PROGNOSIS—TREATMENT. ENURESIS—CAUSATION—PROGNOSIS—TREATMENT. RETENTION OF URINE—CAUSATION—SYMPTOMS—TREATMENT. DYSURIA—CAUSATION—TREATMENT. HÆMATURIA -- CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

ACUTE CYSTITIS, OR INFLAMMATION OF THE BLADDER.

THIS affection is not of very frequent occurrence, but the seat of the disease and the intense pain accompanying it make it of great importance to both patient and physician.

Causation.—It is not often an idiopathic affection, but is the result of gonorrhœa, improper use of the catheter, or the use of irritating drugs as *Cantharides*. Occasionally it is induced by exposure to cold. It is also due sometimes to prolonged retention of urine.

Symptoms.—The symptoms are: chills, followed by fever; pain and tenderness over the bladder; scalding pain in the urethra, with heat; constant desire to pass urine, which, however, can only be voided in small quantities. As the disease progresses the pain increases, and extends to the groin and down the thighs. The pain is somewhat relieved by passing a small quantity of urine, but soon increases again. In severe cases the passage of urine is attended by the most

agonizing pain, and the tenesmus is severe and constant. In some instances there is complete retention. In these cases the constitutional disturbance rapidly increases; there is prostration, low muttering delirium, cold clammy sweats, feeble pulse, and, finally, death, unless the urine is withdrawn. In favorable cases, when resolution takes place, the tenesmus and pain abate, the fever subsides, the urine is voided in greater quantities and resumes its normal appearance, and the patient completely recovers. However, this is not always the result. The disease passes into the chronic form.

Diagnosis.—The diagnosis is generally easy. It is to be distinguished from the passage of a calculus or a stone in the bladder.

Prognosis.—The prognosis is generally favorable.

Treatment.—The remedies are: *Aconite*, *Belladonna*, *Cantharides*, *Cannabis*, and *Apis*.

ACONITE is indicated if the febrile excitement is marked. The symptoms are: chill, followed by fever; micturition painful and scanty; frequent desire to pass urine; urine scanty, scalding hot, dark red; cystitis from exposure to cold, with above symptoms.

BELLADONNA is indicated after *Aconite* if great tenderness over the bladder remains when the more violent symptoms have subsided. The urine is turbid, and deposits a thick slimy sediment.

CANTHARIDES is more frequently indicated than any other remedy. The symptoms are: violent pains in the bladder; constant urging to urinate, with passage of but a few drops at a time; severe tenesmus, with passing of bloody urine; pain in the urethra and perinæum, extending down the thighs; urine scanty, bloody, and, afterward, turbid; fever, great restlessness, and thirst.

CANNABIS is indicated in sub-acute cases, and particularly when gonorrhœa is the exciting cause of the inflammation. Frequent desire to urinate; tenderness of the bladder; urine loaded with mucus, denoting catarrh of the bladder.

APIS.—Great irritation of the neck of the bladder, with burning pain while urinating; *burning pain* in the *urethra* after urinating; frequent desire to urinate; useful in cystitis from the effect of *Cantharides*.

The urine is scanty, high colored and turbid after standing.

CHRONIC CYSTITIS.

Symptoms.—The symptoms of chronic cystitis are the same, in a modified form, as those of acute. There is pain, tenderness, difficulty in voiding urine, frequent urging to urinate, pain in the perinæum. The urine is always more or less turbid on account of the presence of mucus from the lining membrane of the bladder. The mucus may be present in small quantities—just sufficient to render the urine cloudy,—or it may be so great as to form a mass of a semi-gelatinous substance, giving rise to that condition termed catarrh of the bladder.

The urine is frequently alkaline, especially when a portion of it is retained in the bladder until it becomes ammoniacal from decomposition of urine.

Causation.—Chronic cystitis may be a sequel of the acute malady. It may arise from obstructive disease of the urethra; as, stricture in youth and middle life, or enlarged prostate in advanced life.

Other causes are: stone in the bladder, sacculi, dilated bladder, atony, retention of decomposing urine.

Prognosis.—The prognosis depends upon the cause. If it can be removed the prospect of recovery is good. When the disease arises from enlarged prostate or tumor of the bladder, in the old and feeble, the prognosis is unfavorable.

Treatment.—The remedies chiefly indicated are: *Cannabis*, *Apis*, *Chimaphila*, *Lycopodium*, *Uva ursi*, *Pulsatilla*.

Other remedies which may be consulted are: *Calc. carb.*, *Dulcamara*, *Carbo. veg.*, *Kali bi.*, *Senega*, *Terebinthina*.

CANNABIS is particularly indicated when the disease is the result of gonorrhœa. The symptoms are: smarting in the urethra, constant urging to urinate, mucus discharge in the urine.

CHIMAPHILA has profuse discharge of urine loaded with mucus; urging to urinate immediately after having voided the contents of the bladder; fullness in the region of the bladder; catarrh of bladder.

APIS has great irritation of the neck of the bladder; scanty urine, with scalding pain; milky thick urine.

LYCOPODIUM.—Bearing down over the region of the bladder; frequent desire to urinate; turbid urine, with offensive purulent sediment; dull pressing in bladder.

PULSATILLA has tenesmus and stinging in neck of the bladder; frequent efforts to urinate without much effect; sedi-

ment, bloody or mucus-like, sticking to vessel. It is especially indicated for people of lymphatic temperament.

UVA URSI has been used from time immemorial as a remedy in retention of urine and chronic cystitis. Jahr gives a brief pathogenesis: painful micturition, with burning, slimy, purulent urine; hæmaturia.

Washing out the bladder with warm water, or a very weak solution of CARBOLIC ACID, proves very beneficial in many cases. It is especially applicable when the mucous discharge is excessive, or in cases where there is retention of a quantity of ammoniacal urine.

More or less urine is liable to be retained when the bladder becomes sacculated. The retained urine decomposes, and becomes a fruitful source of irritation.

Many instruments have been devised to accomplish the purpose, but a fountain syringe, attached to a soft rubber catheter, answers very well. The bladder can be filled by elevating the bag, and emptied by depressing it. The process may be repeated until the water or solution of *Carbolic acid* returns quite clear.

ENURESIS.

(*Synonym*, INCONTINENCE OF URINE.)

By enuresis, or incontinence of urine, is meant the habitual escape of the urine without the knowledge of the patient, and without his power to prevent it. It may affect any individual, but is much more common with children than with adults. In children it is often congenital, and continues even past the age of puberty, unless checked by appropriate treatment. The usual form is nocturnal enuresis—the incontinence occurring only at night.

Causation.—Among the causes are paralysis of the sphincter of the bladder, from constitutional causes, from external injuries, or from tedious confinements, and, in children, the force of habit. The complaint originally arises from want of care in seeing that the child evacuates the bladder before going to bed. In all cases, when the patient has passed the age of puberty, a careful examination should be made.

Prognosis.—The prognosis is favorable in enuresis of children. In adults it will depend upon the cause, and whether that cause can be removed.

Treatment.—The remedies are: *Ignatia*, *Cucurbita*, *Nux vomica*, and *Equisetum*.

My own experience with *Ignatia* in nocturnal enuresis has been such that I regard it with great favor. I have cured many cases of long standing with it. In one instance I promptly and effectually cured a case of ten years standing with the 200th potency. The patient was sixteen years old.

IGNATIA has the following characteristics: frequent discharge of much watery urine (Cowperthwait); sudden irresistible desire to urinate (Hempel).

NUX VOMICA has been used successfully in some cases.

CUCURBITA has also proved curative in my practice. I administer the 1st dec. dil., five drops, once in four hours.

EQUISETUM.—When nocturnal enuresis has become a habit, *Equisetum* is indicated.

Argentum met., *Bell.*, *Calc. carb.*, *Cina*, *Chamomilla*, *Petroleum*, *Plantago*, and *Thuja*, are indicated in some cases.

ARGENTUM MET.—Frequent and profuse micturition at night.

BELLADONNA.—Incontinence of urine at night, attended with moaning and screaming during sleep.

CALCAREA CARB.—Incontinence in scrofulous children with weak, flabby muscles.

CINA.—Enuresis in children affected with worms; frequent urging, with copious micturition.

PLANTAGO.—Nocturnal enuresis from paresis of the sphincter vesicæ.

CHAMOMILLA.—Child is fretful, peevish, and dissatisfied with everything.

PETROLEUM.—Nocturnal enuresis from atony of the bladder.

THUJA.—Frequent and copious urination at night; involuntary urination after coughing.

Certain precautions should be taken, in nocturnal enuresis of children, in conjunction with remedial measures. Only limited quantities of fluid should be taken during the afternoon and evening, so as to prevent the rapid accumulation of urine. The child should be made to evacuate the bladder on being put to bed, and should be taken up for the same purpose later in the night. Abundant exercise, and plain, wholesome food are hygienic measures of importance.

Punishment should be strictly avoided.

RETENTION OF URINE.

Causation.—Inability to discharge the water accumulated in the bladder arises from a variety of causes; as, paralysis of the muscular coats, impermeable stricture, spasmodic contraction of the sphincter of the neck of the bladder, enlarged prostate, and over-distension of the bladder following prolonged voluntary retention of the urine.

Retention can be discriminated from suppression of urine by the unusual distention of the bladder, which can be felt above the pubic arch, sometimes rising to the umbilicus. The bladder is felt as an oval body, distinctly defined to the touch, and gives a flat sound on percussion.

Symptoms.—In atony of the bladder the urine accumulates in the viscus until the limit of distension is reached, when it overflows, causing dribbling. It is well to remember, in this connection, that dribbling of urine nearly always indicates retention, and not incontinence.

The subjective symptoms are: great pain and restlessness, urgent desire to urinate, and, if the accumulation is great, there will be constitutional disturbances.

Treatment.—The first indication is to evacuate the bladder promptly with the catheter, or, failing in that, to draw off the urine with the aspirator. Enter the needle just above the pubes.

The subsequent treatment will be indicated by the cause. It will frequently be necessary to use the catheter for some considerable period, especially in enlarged prostate, stricture, and paralysis. The remedies are: *Hyoscyamus*, *Belladonna*, *Cantharis*, *Gelseminum*, *Nux moschata*, *Baryta carb.*, *Ag-nus castus*, *Pulsatilla*.

HYOSCYAMUS is indicated for *retention of urine in new born infants*; also, for *retention after prolonged labor*. Temporary paralysis of the bladder not infrequently results from severe and continued pressure of the foetal head upon the urethra and neck of the bladder. It is also indicated for retention during typhoid and typhus fevers.

BELLADONNA is indicated if the retention is caused by an *irritable* condition of the neck of the bladder, causing spasmodic contraction of the sphincter at every effort to urinate.

CAMPHOR will sometimes be effectual to relieve in the above condition when *Belladonna* fails.

CANTHARIS is indication for prolonged voluntary retention, resulting in inability to void the urine.

GELSEMINUM.—Retention from atony and paralysis of the bladder.

NUX MOSCHATA.—Retention of urine in hysterical subjects.

BARYTA CARB.—For retention in old age from paralysis of the bladder.

AGNUS CASTUS is recommended by Dr. Marcy for the same condition.

PULSATILLA.—In retention from enlarged prostate gland.

DYSURIA.

(*Synonym*, PAINFUL AND DIFFICULT URINATION.)

Painful, difficult, and frequent urination is common to such a variety of complaints that it is hardly practicable to consider it an affection requiring special treatment.

Causation.—Its causes are numerous and various—stricture, enlarged prostate, uterine displacement, irritable bladder, stone in the bladder, masturbation, irritation of ascarides, etc.

A careful examination of the patient should be made in all instances in order to determine the cause.

Relief of the stricture, replacement of the uterus, removal of the stone, or destruction of the parasite, will usually be followed by subsidence of the urinary difficulty.

When caused by enlarged prostate the complaint is generally incurable.

Treatment.—The remedies indicated for dysuria are: *Apis*, *Cantharides*, *Cannabis*, *Uva ursi*, *Lycopodium*, *Asparagus*, *Belladonna*, *Chimaphila*, *Erigeron*, *Terebinthina*.

APIS is a valuable remedy in dysuria from irritability of the neck of the bladder. Its symptoms are: great irritation at the neck of the bladder, with frequent and burning urination; frequent desire, with passage of only a few drops; *burning and stinging pain in the urethra before and after urinating*.

CANTHARIS.—Frequent urging to urinate; *tenesmus of the bladder*; *scalding sensation in the urethra*; urine is passed drop by drop; urine passed in thin divided stream.

CANNABIS.—Urination frequent but scanty, with pain in urethra.

UVA URSI.—Painful urination; burning in the urethra.

LYCOPodium is especially indicated in dysuria of infants. Urination is difficult and painful; much straining when urinating; *red sediment on the napkin* after urinating.

ASPARAGUS.—Urging to urinate, with burning in the urethra; *pungent odor* of the urine; fine stitches in the meatus after urinating; a burning sensation, and a feeling as if more urine should be voided.

BELLADONNA.—Dysuria, with passing of urine drop by drop; *sharp stitches* in the *perinæum*; constant dribbling of urine.

CHIMAPHILA has this symptom: inability to pass the urine without standing with the feet wide apart, and body inclined forward.

ERIGERON.—Dysuria in children; frequent desire, with pain during urination; dysuria from vesical catarrh; external parts inflamed and swollen. (Lilienthal.)

TEREBINTHINA.—Frequent urination at night, with intense burning; scanty, dark, turbid urine; difficult urination.

HÆMATURIA.

Hæmaturia denotes the passage of blood with the urine, and which may proceed from the ureters, bladder, or urethra. Its presence in the urine may proceed from widely different pathological conditions. Its presence is usually easily recognized, although in some instances it is present in such minute quantities as to be detected only by the use of the microscope. If the blood proceeds from the kidneys it imparts to the urine a dull red, smoky appearance, and deposits, on standing, a brownish sediment; if from the ureters or bladder, the urine is tinged with a more decided blood color, and little clots are often preceptible; if it comes from the urethra the blood and urine often appear in separate streams, or the blood issues drop by drop from the meatus.

Causation.—Hæmaturia may arise from local lesions; as, injuries to the kidneys, ureter, bladder, and urethra, acute and chronic albuminuria, violent muscular effort, nephritic calculus, stone in the bladder, cancer of the urinary tract, congestion of kidneys or bladder, etc.; second, from constitutional diseases; as, scurvy, purpura, hemorrhagic types of continued and malarious fevers, in which the blood oozes from the renal capillaries into the uriniferous tubes.

In some instances hæmaturia is vicarious, taking the place of a menstrual or hemorrhoidal discharge.

Diagnosis.—It is of great importance, in the treatment of the affection, to determine the source of the blood. The subjective symptoms attending hæmaturia guide us in a measure to the origin of the hemorrhage.

If the bleeding comes from the kidneys there will be pain and tenderness on pressure in the region of the kidneys, together with a feeling of heat and weight there. There may be pain, also, along the ureters, extending down the thigh, and retraction of the testicles. The blood is uniformly mixed with the urine, the latter being of a brownish red color, and of a smoky appearance, forming a brown sediment after standing. Cylindrical casts and epithelial scales from the renal membranes are also detected by the microscope. Threads of fibrin, formed by coagulation of blood in the ureters, are frequently observed. Cystic hemorrhage is determined by the passage of pure blood during micturition, the appearance of clots in the urine, the occasional obstruction of the stream by a clot at the vesical orifice of the urethra, the presence of a stone in the bladder, and the appearance of flat, scaly vesical epithelium. If the hemorrhage is from the urethra the flow may appear without any effort to urinate, or will precede the discharge of urine.

A peculiar form of hæmaturia prevails as an epidemic in certain parts of Egypt, Southern Africa, and the Island of Mauritius. It is induced by the presence in the kidneys of the larva of the parasite *distomum hæmatobium*. They are also found in the bladder and in the portal vein. The eggs of the parasite exist in water drank by the inhabitants of these countries. They are taken into the stomach, and from thence find their lodgment in the kidneys, bladder, etc. The microscope reveals their presence in the urine, and establishes the cause of the hemorrhage.

Prognosis.—The prognosis depends upon the cause, the amount and duration of the hemorrhage, and will be favorable or unfavorable accordingly. In general, the prognosis may be said to depend upon the nature of the malady with which it is associated.

Mere loss of blood from the kidneys or bladder seldom proves fatal. In its ultimate effects, however, it may prove a source of danger by a clot becoming the nucleus of a calculus, or by blocking up permanently the uriniferous tubes, which may destroy the function of part of the kidney.

Treatment.—The remedies for hæmaturia are: *Terebinthina*, *Arnica*, *Cantharides*, *Millefolium*, *Ipecac*, *Aconite*, *Hamamelis*.

TEREBINTHINA.—Urine bloody, the blood is thoroughly mixed with the urine; the color is a reddish brown; spasmodic urging and pressing in the region of the bladder;

burning, drawing pain in the kidneys; cylindrical casts and renal epithelium in the urine. Hartman recommends *Terebinthina* if the hemorrhage is caused by a peculiar composition of the blood such as exists in scurvy.

ARNICA is useful in renal hemorrhages which are caused by falls, blows, contusions, etc.

CANTHARIDES.—*Cantharis* is indicated in congestion and hyperæmia of the kidneys. The symptoms are: pain in the region of the kidneys, and urging to urinate; cutting and burning pain in both kidneys, the region being very sensitive to the touch; evacuation, drop by drop, of bloody urine, or at times, of pure blood; cutting and contracting pains in the ureters.

MILLEFOLIUM has in its provings: pain in region of left kidney, then bloody urine; urine bloody, blood forms a cake in the vessel.

IPECAC is indicated in hæmaturia with profuse flow of bright red blood; also, dark red urine, as though mixed with blood.

ACONITE.—Hempel recommends *Aconite*. He says that he has effected cures with it without calling in the aid of any other drug. It is indicated by swelling, heat, throbbing and soreness in the region of the kidneys.

HAMAMELIS has occasionally proved curative in hæmaturia from passive congestion of the kidneys. Clinical experience has demonstrated its efficiency.

Other remedies are occasionally indicated; among which are *Cannabis*, *Chimaphila*, *Erechthites*, *Lycopodium*, *Nuxvomica*, *Phosphorus*, *Secale*, and *Sulphur*.

CHAPTER II.

DISEASES OF THE KIDNEYS.

NEPHRALGIA—SYMPTOMS—TREATMENT. ¹ NEPHRITIC COLIC—DEFINITION—SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT. CALCULOUS DISEASE OF THE KIDNEY—VARIETIES OF CALCULI—COMPOSITION—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. HYDRONEPHROSIS—SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT.

NEPHRALGIA.

(*Synonym*, GRAVEL.)

Symptoms.—The symptoms pertaining to nephralgia, or gravel, are of two kinds; namely, the sensations and constitutional disturbances of the patient, and the morbid appearances of the urine.

The general symptoms are: pain or discomfort in one or other kidney, extending down the ureter to the bladder; frequent urging to urinate, accompanied, frequently, with severe pain; pain in the testicle and spermatic cord; pain in the lumbar region, with sense of weight.

The severity of the pain varies greatly in different cases; in some it is so slight as to only amount to a feeling of discomfort, in others it is very severe and distressing.

The constitutional disturbances are: nausea, vomiting, loss of appetite, and, sometimes, acceleration of the pulse.

The urine is sometimes clear on being voided, but deposits a reddish sediment on cooling; the deposit consisting of lithic acid. The acid is in excess in the urine, and may be detected by chemical tests, though it is held in solution until precipitated by cooling.

In other cases the acid may be in greater quantity, being thrown down rapidly, and forming a crystalline precipitate, which exhibits under the microscope the characteristic crystals which lithic acid assumes.

The form of nephralgia caused by the presence of this red-

dish sand-like deposit rarely causes any great amount of irritation, and is generally readily amenable to treatment. It is frequently, however, the warning and precursor of attacks of gout or gravel, and indicates the necessity of a careful attention to the health, and reform in injurious habits or excesses.

Gravel, or the passage of crystals of lithic acid of larger size, differs in the symptoms only in degree. The pain is more acute and distressing, and the constitutional symptoms more marked. There is frequent and irresistible desire to urinate, the passage of urine being attended with acute pain at the neck of the bladder and the meatus urinarius, and by a burning, smarting pain in the urethra. The pain is temporarily relieved by the act of micturition, but it speedily returns, followed again by the intense urging to evacuate the small quantity of urine contained in the bladder. The gravel voided is gritty and sand-like in character. A portion of it is crystalline, the balance amorphous in appearance. It is generally composed of lithic acid and the lithates of ammonia and soda.

If the gravel is unusually coarse, or the attack prolonged, blood disks in greater or less numbers may be detected in the urine by microscopic examination.

Treatment.—The remedies are: *Lycopodium*, *Sarsaparilla*, *Apis*, *Graphites*, *Nux vomica*, *Thuja*.

LYCOPODIUM.—Red sandy sediment in the urine; urine turbid, as if mixed with brick dust; frequent desire to urinate, attended with burning like fire; pain before and after urinating. *Lycopodium* is especially useful in attacks of gravel in infants and children.

SARSAPARILLA.—Frequent desire to urinate, with scanty discharge, accompanied by burning pain in neck of bladder. Urine contains gravel or small calculi (Cowperthwait); severe pain after urinating.

APIS.—Frequent sudden attacks of pain along the ureters; great irritation at the neck of the bladder; frequent desire to urinate, with scanty discharge; burning pain in the urethra; urine dark red and bloody, with brick dust sediment.

GRAPHITES.—Urging to urine, with scanty discharge; cutting pain in kidneys before urinating; smarting in the urethra while urinating; urine turbid, with a reddish sediment.

NUX VOMICA.—Raué considers *Nux* the best remedy to be given after severe attacks of gravel, particularly when anodyne remedies have been freely used to allay the pain. The symptoms calling for its administration are: pain in right

kidney, extending to the testicles and down the right thigh; constant urging to urinate; brick dust sediment in the urine.

THUJA.—Constant urging to urinate; feeling after passing water as though a *drop* was *running* along the *urethra*; red urine, depositing a red sediment.

NEPHRITIC COLIC.

Definition.—A renal calculus or stone is a concretion formed in some part of the kidney, varying in size and composition. When it escapes from the kidney into the ureter, its passage through this canal into the bladder sets up the group of symptoms designated nephritic colic.

When of small size they may pass through the ureters to the bladder, and thence be ejected through the urethra, or they may remain in the bladder, forming the nuclei of stones which may require to be removed by an operation. In some cases they are too large to pass through the ureters and remain in the pelvis or structure of the kidneys, to eventually set up inflammation and suppuration. When a calculus is too large to pass readily through the ureters its passage gives rise to considerable pain and constitutional disturbance, which is called renal or nephritic colic.

Symptoms.—The affection is usually developed suddenly. I have known a paroxysm of nephritic colic to come on as the patient, a clergyman, was ending his discourse, and he was barely able to finish the services on account of the intense pain. There may be, however, uneasy feelings for some days, due, probably, to irritation of the opening of the ureters by the calculus before it is fairly engaged in the passage. When once engaged the pain becomes at once exceedingly severe, and is located by the sufferer in a spot near the course of the ureter. The pain spreads from this spot downward to the groin and thigh. In the male the pain extends into the testicle, which is drawn up on the affected side by the contraction of the cremaster muscle. The pain is tearing and cutting, and is frequently so severe as to elicit loud cries from the patient. The urine is scanty, but there is a constant desire to urinate, with discharge of only a few drops at a time. The urine is frequently tinged with blood from laceration of the ureter by the passage of the calculus. If pus is also present it is indicative of abscess of the kidney, and also that the stone has been some time in the kidney.

When the pain is very severe there are present other symptoms indicating constitutional disturbance; as, loss of appetite, thirst, nausea or vomiting, coldness of the surface, clammy perspiration, rapid and feeble pulse, and pallor of the face. The countenance expresses distress and anxiety. Occasionally the pain remits, returning soon again with its former severity. After lasting a variable interval from a few hours to several days, according as the passage of the calculus is rapid or slow, the pain suddenly ceases, and an abundant discharge of urine takes place. The passage of the calculus is over, and it has reached the bladder. The constitutional symptoms quickly disappear, and in a day or two the patient is in his usual health. The calculus usually soon passes from the bladder, and if any care is taken it may be found in the urine.

Sometimes two or more paroxysms follow in rapid succession from the passage of a corresponding number of calculi, but usually there is but one. When a person has had one attack he is liable to a recurrence of them.

Diagnosis.—The diagnosis is generally made without difficulty. The suddenness of the attack, the location of the pain, the retraction of the testicle in the male, the extension of the pain to the groin and thigh, the scanty urine mixed with blood, indicate the nature of the attack with sufficient certainty. The diseases which are to be excluded in the diagnosis are neuralgia, colic, hepatic colic, cystitis. But in all these the characteristic symptoms of nephritic colic are wanting.

Prognosis.—The prognosis is favorable, a fatal termination being very rare. A complete arrest of the calculus in the ureter would, of course, make the prognosis unfavorable. Inflammation, gangrene, and uræmia would be the result.

Treatment.—The treatment of nephritic colic is largely palliative. The patient should be kept as quiet as possible. Hot baths and hot fomentations are useful, and should be freely applied. Warm drinks may be freely administered, if tolerated by the stomach. They promote the secretion of urine, and thus may aid in the passage of the calculus by pressure from behind.

If the pain is severe MORPHINE should be administered hypodermically.

In prolonged cases the occasional inhalation of CHLOROFORM is advisable.

It must be considered that the pain is caused by the mechanical distension of the ureter, and the friction of the cal-

culus against its walls. Those remedies, therefore, which act as anodynes are the only ones which promise any relief.

For the inflammation and soreness which remain after the passage of the calculus *BELLADONNA*, *NUX*, or *ARNICA* should be given.

CALCULOUS DISEASE OF THE KIDNEY.

Varieties of calculi.—A calculus which fails to escape from the kidneys may become encysted and remain an indeterminate time without proving a source of irritation, or it may set up various morbid conditions.

These are: calculous nephritis, or inflammation of the substance of the kidney; calculous pyelitis, or inflammation of the infundibulum and pelvis; or, a combination of both, pyelo-nephritis.

Calculi of the kidneys vary in form, size, color, consistence, and composition. In form, the calculus is generally oval, but may be irregular or branched, becoming, if long retained, moulded to the shape of the position it occupies. Usually it consists of a nucleus, and secondary deposits upon this, called the crust. The nucleus may or may not be of the same materials as the crust. A certain proportion of organic matter is mixed with the inorganic elements of which the stone is chiefly composed.

Composition.—The principal varieties of renal calculi are composed of uric acid, urate of ammonia, oxalate of lime (called the mulberry calculus from its resemblance to a ripe mulberry), phosphates of lime and magnesia, cystine, xanthine, and fibrin.

Calculi of cystine and xanthine are very rare. Calculi composed of different constituents are not seldom found, and are termed mixed.

The effect of the presence of calculi in the kidneys and appendages is manifested by a variety of morbid conditions. If lodged in the infundibulum or pelvis they irritate the mucous membrane lining these parts, causing more or less laceration, which results in hæmaturia, or even in chronic inflammation. In some instances the stone becomes so large as to completely fill the renal pelvis, in which case the urine excreted is dammed up and cannot escape into the ureters. As a consequence a portion is reabsorbed, but the remainder accumulates behind the calculus, distends the kidney, and gives rise to the condition known as hydronephrosis. In

consequence of the pressure of the fluid upon the surrounding structures they become atrophied, until only a sac is left containing altered urine.

The most common result of retained stone in the pelvis is pyelitis. There is first congestion and inflammation of the lining membrane, with numerous minute points of extravasations of blood. The epithelium exfoliates, and is discharged along with the urine. Later, a muco-purulent or purulent fluid is formed, which bathes the surface of the membrane or mixes with the urine. If the muco-purulent or purulent fluid is prevented from escaping by the pressure of the calculus over the opening of the ureters, it accumulates, distends the pelvis, and gives rise to the condition called pyonephrosis. Should the retention be permanent the parenchyma of the kidney becomes involved, and undergoes purulent degeneration. The substance ultimately is almost entirely destroyed, leaving merely a sac containing pus, the calculus, and debris of disorganized tissue. The sac may attain to a considerable size, and form extensive adhesions to adjacent parts. In some instances the fluid escapes through the ureter to again accumulate. In other instances the sac ruptures, the contents escaping externally through the abdominal walls, or internally into the colon, the duodenum, abdominal or thoracic cavity.

The tissues surrounding the kidneys occasionally become the seat of inflammation (perinephritis). This may occur through the extension of inflammation from the kidney, or an escape of pus into the parts, caused by rupture of the sac containing it. If an abscess is the result, the contents may escape in any one of the directions before indicated.

The sequelæ of calculous disease of the kidney are hypertrophy of the sound kidney in consequence of increased work demanded of it, albuminoid disease, septic poisoning, uræmia, and peritoneal or pleuritic inflammation.

Symptoms.—The symptoms are, in some cases, somewhat obscure, there being only an uneasiness or pain in the lumbar region, continuous or felt after an effort, and a more frequent desire to urinate than usual in health. These symptoms may disappear either by the calculus becoming encapsulated or by finding its way to the bladder.

Generally the symptoms are of a marked character. There is pain and tenderness in the lumbar region over the affected kidney; frequency of micturition; occasional attacks of hæma-

turia; pus, renal casts, shreds of epithelium, and debris of calculi in the urine. In some instances there is neuralgia and retraction of the testicle of the affected side.

The general system suffers to a greater or less extent. There may be debility, loss of flesh, indigestion, nausea, and vomiting. Hectic fever may be present in those cases attended with the formation of pus.

In hydronephrosis and pyelitis there may be felt a well defined tumor, or fluctuation denoting the formation of a renal abscess.

Causation.—Hereditary tendency has much to do with the formation of renal calculi. This tendency depends upon a certain constitutional peculiarity, or diathesis, favorable to the formation of stone. Habits of life have much to do with the contraction of the disease. Indolent, sedentary habits, combined with a luxurious mode of living, excessive indulgence in rich foods and drinks, lead to the formation of urates and oxalates, and assist in the formation of calculi composed of these materials. The formation of calculi of oxalates of lime has also been attributed to the excessive consumption of vegetables containing oxalic acid in abundance. Age is a determining cause.

Calculus is much more common in childhood and youth than in middle life and old age. Males are more subject to the disease than females.

The use of water abounding in earthy salts has been considered an exciting cause of calculus, but statistics do not confirm the supposition.

Diagnosis.—While the diagnosis in some instances is a matter of great doubt and difficulty, yet, in the majority of cases, a thorough and careful investigation of the symptoms will determine the nature of the malady. The points to be chiefly considered are the character and location of the pains; the presence or absence of blood, pus, and renal epithelium, in the urine; the passage of calculi through the ureters in the past history of the patient, and the presence of a tumor in the lumbar region.

Prognosis.—The disease is always a serious one, and the prognosis should be guarded. Generally there is no immediate danger to life, and a fatal termination is rather the result of the morbid processes set up by the irritation of the calculus. Death may speedily occur from fatal peritonitis, caused by the rupture of the sac, and the escape of its contents into the peritoneal cavity.

Treatment.—The treatment may be preventive, remedial, and surgical.

Preventive treatment should be instituted when there is found to be a tendency to the formation of calculi, indicated when the urine is persistently alkaline, containing uric acid or oxalate of lime in excess, as shown by their appearance in the urine when first voided, and before it has had time to cool; also, when there is hereditary predisposition or a gouty diathesis. A chief preventive measure consists in a careful regulation of the diet and habits of the patient. Rich, indigestible, and highly seasoned food must be avoided; meat should only be used in moderation, and, if there be a tendency to the formation of calculi of oxalates of lime, vegetables containing oxalic acid should not be used. Moderate exercise in the open air, frequent baths, frictions of the skin, are decidedly beneficial. The use of water containing an excess of lime and magnesia should be avoided.

I have derived great benefit, in some cases, from the continued use of VICHY MINERAL WATER. I prescribed it for a patient, a man of fifty years of age, who had repeated attacks of renal colic, with a most favorable result. No more attacks occurred after its use, and the patient's general health was improved.

Other mineral waters are serviceable in particular cases; as, *Carlsbad*, *Saltzbrun*, *Solution of Citrate of Potash*, etc.

The remedies are the same as I have mentioned in the article on gravel; namely, *Lycopodium*, *Sarsaparilla*, *Apis*, *Graphites*, *Nux vomica*, *Thuja*.

In addition to these, *Calc. carb.*, *Asparagus*, are recommended by Dr. Marcy.

CALC. CARB. is suitable for calculous affections of scrofulous children. It is indicated when the pains in the urinary organs are worse at night, with frequent urging to urinate. The urine is of a dark color, fetid, and deposits a white sediment.

Dr. Marcy observes: "We have exhibited ASPARAGUS in two cases of lithiasis dependent upon a gouty diathesis, with marked success. In one of these cases the calculous symptoms all disappeared in a few weeks after commencing the medicine, and the morbid character which the urine had presented for several years was entirely changed to a healthy condition. We are inclined to believe that *Asparagus* is a remedy of much greater power in urinary affections than has ever been attributed to it. Our experience with it in these maladies

has been somewhat extensive, and generally of a most satisfactory character. It is especially called for when there is frequent inclination to urinate; burning and cutting in the urethra and kidneys; dull, drawing pain in the groin; tenderness and pain in the perinæum; sensation as if urine was passing off after all has been discharged; urine, straw colored or brown, with a very offensive smell and a whitish sediment; palpitation of the heart; rapid and oppressed respiration on the slightest exertion."

Of late years operations for the removal of the calculi or extirpation of the kidneys have increased in frequency, and, in a large proportion of cases, with success. It is not within the province of this work to do more than to refer to the cases fully detailed in recent works on surgery and in the medical journals.

HYDRONEPHROSIS.

(*Synonym, RENAL DROPSY.*)

Hydronephrosis is an accumulation of urine in the pelvis of the kidney, either congenital or the result of obstruction of the kidney in after life. The obstruction may arise from an imperforate ureter, the impaction of a calculus in the ureter or over its opening into the kidney, disease of the walls of the ureter, causing stricture in some part of its length, or disease of the bladder, closing up the outlet of the ureter. The retention of the urine in the kidney leads to dilatation of the pelvis, infundibulum, and calices, with subsequent dropsy of the renal tissue.

Symptoms.—In some cases hydronephrosis may exist for many years, if the accumulation of urine is small, and the corresponding kidney is in a healthy condition. The symptoms usually observed are those caused by the presence of a calculus in the pelvis or infundibulum; renal colic, from the entrance of a stone into the ureter, which either is arrested in its course or sets up inflammatory action of the walls of the ureter, causing permanent or partial closure of the duct. These phenomena precede the accumulation of urine in the kidney. The special sign indicating renal dropsy is the presence of a soft, elastic, fluctuating tumor in the renal region, gradually increasing in size. It is not usually sensitive to touch, and is unaccompanied by pain. The tumor sometimes attains to a large size, extending upwards and downwards in

the hypochondriac and iliac regions. The pressure of the sac, when large, upon the adjacent structures gives rise to flatulence, constipation, nausea, and vomiting. Percussion over the tumor gives a flat sound. If the tumor is large, fluctuation may be detected by the usual means.

Diagnosis.—The diagnosis is difficult unless the accumulation of fluid is considerable. The previous history of the patient as to urinary disturbance, the occasional passage of a calculus, the presence of a tumor in the renal region, the signs elicited by percussion, etc., are important aids to correct diagnosis. The sudden emission of a large quantity of urine coincident with a subsidence of the tumor will, if it occurs, be diagnostic of the disease. Hydronephrosis needs to be discriminated from pyelitis, hydatid cyst of the kidney, and perinephritis.

Prognosis.—The prognosis is unfavorable. It depends somewhat upon the size of the tumor, the nature of the obstruction, and the effect of the disease upon the constitution of the patient. If the obstruction can be removed, or if the fluid does not again accumulate after being withdrawn, recovery may take place.

Treatment.—An operation for the removal of the obstruction, if it is ascertained to be a calculus, removal of the fluid by aspiration or extirpation of the affected kidney, are the only measures which are likely to be of benefit.

Aspiration is attended with the least danger to life, and should first be tried. Even repeated evacuations of the fluid may eventuate in cure.

ADDISON'S DISEASE.

In 1849 Dr. Addison published to the medical world his investigations and description of the disease which now bears his name. More recent researches have established the fact of uniform morbid changes in the supra-renal capsules coincident with the symptoms described by Addison.

As Dr. Addison's description of the disease is as full and accurate as any that has subsequently been given, I can do no better than give it here. He says: "The patient gradually becomes languid, weak, and indisposed either to bodily or mental exertion; the appetite is impaired or entirely lost; the white of the eyes becomes pearly; the pulse small and feeble, or, perhaps, soft and compressible; the body wastes without presenting the dry, shriveled skin and extreme emac-

ciation usually attendant upon protracted malignant disease; slight pain and uneasiness is from time to time referred to the region of the stomach, and there is occasional active vomiting, which, in one instance, was both urgent and distressing, and it is by no means uncommon for the patient to manifest indications of disturbed cerebral circulation. Notwithstanding these unequivocal signs of feeble circulation, anæmia, and general prostration, neither the most diligent inquiry, nor the most careful physical examination, tends to throw the slightest gleam of light upon the precise nature of the patient's malady, nor do we succeed in fixing upon any special lesion as the cause of this gradual and extraordinary change. With more or less of these symptoms we discover most remarkable, and, as far as I know, characteristic discoloration of the skin, sufficiently marked, indeed, as generally to have attracted the attention of the patient himself, or the patient's friends. The discoloration pervades the whole surface of the body, but is commonly most strongly manifested on the face, neck, superior extremities, penis, and scrotum, and in the flexures of the axilla, and around the navel. It may be said to present a dingy or smoky appearance, or various shades of deep amber or chestnut brown, and, in one instance, the skin was so universally and so deeply darkened that, but for the features, the patient might have been mistaken for a mulatto. If I see a patient who presents this peculiar discoloration of the skin, and with this a certain train and combination of symptoms, a pearly eye, a feeble pulse, a disposition to strongly marked anæmia, and a few other symptoms less constant, I say this is a case in which you will find disorganization of the supra-renal capsules."

It is probable that as the morbid and degenerative alterations in the supra-renal capsules take place, so the constitutional symptoms become more marked, and the general health becomes more and more impaired. The progressive changes in the capsules are, as recognized in post-mortem examinations, first, an enlargement of the organ to two or three times its normal size. The glandular structure is destroyed, and its place supplied by an albuminoid material of a grayish white color. The investing membrane is changed into a thick, tough capsule. The supra-renal body at this period resembles a firm scrofulous gland.

Later degenerative changes commence, until the diseased organ has, scattered throughout its substance, numbers of rounded yellow masses, like soft yellow tubercle, about the

size of peas. At a still later period the whole of the albuminoid material first formed is changed into yellow tubercular material. The organ shrinks to about its normal size. Further changes may result in the formation of a chalky substance, or the tubercular matter may soften into a creamy or pus-like fluid.

The progressive increase of the malady is indicated by the following groups of symptoms—

At first the patients manifest a general derangement of health; such as failure of appetite, impaired digestion, some loss of strength, and an indisposition for physical or mental effort. Later on the failure of strength becomes more manifest, gastric disturbances are more marked, nausea and vomiting are of frequent occurrence, the pulse is feeble, and some discoloration of the skin is observed. Still later the feebleness increases, the pulse becomes almost imperceptible, there is loathing of food, with nausea, and a feeling of utter prostration. The skin assumes a characteristic bronze color. The coloration extends over the whole body, but is darker and more intense in some localities than in others.

The duration of the disease is from six months to two or three years. The average duration is about a year and a half. Death usually occurs by asthenia—the patient growing weaker and weaker, the circulation feebler and feebler, until the heart ceases to beat. Occasionally delirium, convulsions, or coma occur prior to death.

Diagnosis.—The diagnosis presents no difficulty after the pigmentation of the skin has become marked. Prior to this, and especially in the earlier stages of the disease, a positive diagnosis is impossible. The groups of symptoms characteristic of the disease appearing in a patient in whom no important lesion can be detected, and particularly when asthenia is marked, should, however, direct the physician's attention to the probability of the existence of disease of the supra-renal capsules.

Prognosis.—The prognosis is decidedly unfavorable. No cure of a well marked case of the disease is on record.

Pathology.—It seems rather singular that an affection of a small organ of no recognized functional importance should produce such extensive and profound constitutional disturbance as to lead inevitably, at no distant period, to the death of the patient. The only explanation of the connection between the diseased organ and the general symptoms, particularly the great prostration, is, that the supra-renal capsules

are internally connected with the solar plexus, and that in some way these great nerve centers are implicated in the disease.

Treatment.—It is doubtful if any medicinal agents are of any value.

The pathogeneses of PHOSPHOROUS and ARSENICUM present points of similarity to the symptoms of the disease.

In addition to these Raué, Lilienthal, and Hughes, suggest *Belladonna*, *Nat. mur.*, *Kreosote*, *Calc. carb.*, *Carbo. veg.*, *Cinchona*, *Ferrum*, *Lycopodium*, *Theridion*, *Psorinum*, and *Kali carb.*

CHAPTER III.

DIABETES MELLITUS, DIABETES INSIPIDUS,
ACUTE BRIGHT'S DISEASE, AND CHRONIC
BRIGHT'S DISEASE.

DIABETES MELLITUS—ANATOMICAL APPEARANCES—SYMPTOMS—DURATION—CAUSATION—DIAGNOSIS—TESTS FOR GRAPE SUGAR—PROGNOSIS—PATHOLOGY—TREATMENT. DIABETES INSIPIDUS—ANATOMICAL APPEARANCES—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. ACUTE BRIGHT'S DISEASE—MORBID ANATOMY—SYMPTOMS—COMPLICATIONS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT. CHRONIC BRIGHT'S DISEASE—SYMPTOMS—COMPLICATIONS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT—PALLIATIVE TREATMENT—URÆMIA.

DIABETES MELLITUS.

(*Synonym*, GLUCOSURIA, MELITURIA.)

DIABETES mellitus is a disease characterized by an increased secretion of urine of greater specific gravity than normal, and which contains an excessive quantity of sugar. It is attended by dryness of the skin, dryness and redness of the mouth, fetor of the breath, increased appetite, great thirst, muscular weakness, and emaciation.

Anatomical appearances.—The anatomical changes are not many, nor constant. Hypertrophy of the kidneys is most frequently observed, and is probably due to increased activity. The uriniferous tubes show increased proliferation, and sometimes fatty degeneration. The liver may be normal or congested and enlarged. The mucous coat of the intestinal tube is thickened. The blood vessels, particularly those at the base of the brain, are liable to be atheromatous. The brain, spinal cord, and sympathetic nerves have been observed to be softened. The lungs are generally found diseased. Hepatization, red and gray, is often present. Abscesses are not infrequent. They are formed from broken down lung tissue or tuberculous deposits.

Symptoms.—The first symptoms which attract the patient's attention are frequent and excessive discharges of

urine, unusual thirst, commencing emaciation, and muscular weakness. Generally the disease advances by slow degrees, and may have lasted some time before the patient is aware of anything serious being the matter. In some cases the onset is rapid, and progresses speedily to a fatal termination.

The urine is abundant, of a pale amber color; has a strong acid reaction; is sweetish to both smell and taste; foams on being voided, and leaves a white stain after drying upon the ground or on the clothing. It is of high specific gravity, ranging from 1030 to 1045. The quantity discharged varies from four to six and seven pints each twenty-four hours. In consequence of the great quantity of urine voided the thirst is great. In addition to these, there is dryness in the mouth, more marked in the morning on awaking from sleep. The tongue is clean and red. The gums are soft and darker than usual. The odor of the breath is peculiar, resembling that of apples. The appetite is increased, and in some cases is voracious. It would be naturally expected that from the great loss of fluids, and the drain upon the body by the excretion of so much sugar, more food and drink would be demanded than would suffice for a person in healthy condition. Digestion is usually good at the beginning of the disease, but as it progresses, flatulence, pain in the stomach, nausea, and vomiting, are present. Cutaneous eruptions, boils, and carbuncles often appear during the course of diabetes, more particularly during the later stages. The presence of sugar in the urine causes excoriation and soreness of the prepuce and urethra in the male, and of the labia in the female. The skin is usually dry and harsh. The bowels are generally constipated.

As the disease advances the emaciation and debility become more marked. Complications of bronchitis, pneumonia, and tuberculosis supervene and hasten the end. Carbuncles and gangrene are liable to occur and increase the debility of the patient.

Death usually occurs from some one of these complications. Occasionally the patient becomes suddenly drowsy and short of breath, and passes speedily into a state of profound coma, ending in a day or two in death.

Duration.—The duration of the disease varies materially in different cases. Usually it runs a slow course, frequently lasting for many years before a fatal termination. Cases are on record, however, in which it has proved speedily fatal, pulmonary tuberculosis setting in after diabetes has been

established. Intercurrent diseases during the course of diabetes are apt to prove fatal, owing to the enfeebled condition of the patient. The average duration of the disease is between two and three years.

Diabetes occurs most frequently between the ages of thirty and fifty years. Out of six hundred and thirteen cases, four occurred prior to the age of ten, and one after the eightieth year. It occurs much more frequently among men than women, the proportion being about three to one.

Causation.—Temperament and habits of life are predisposing causes. The disease occurs most frequently among stout, muscular, and fat persons; also among spare individuals of nervous temperament, and who are subject to nervous troubles. Sedentary and luxurious habits of life predispose to diabetes. It seldom occurs among the laboring classes, or those who lead active, laborious lives.

Among the exciting causes are, injuries to the head; nervous affections; softening of the brain; depressing emotions; prolonged mental anxiety, and excitement. The disease is more frequent after a time of great commercial depression among business men, who are kept upon a severe mental strain by impending business calamities.

Diagnosis.—The chief diagnostic test is the presence of grape sugar in the urine. We may suspect diabetes if the quantity of urine is excessive; is of a sweetish odor and taste; excoriates the genitals; foams on being voided on the ground or in a vessel; and in addition, if the patient has great appetite and thirst, and is beginning to lose flesh and strength. But the only positive reliance is on the detection of grape sugar in the urine in constant quantities. The diseases with which it is liable to be confounded are, diabetes insipidus, with which it has many symptoms in common, and glykosuria, or the presence of sugar in the urine, in consequence of the excessive use of starch and saccharine food. Sugar is also found in the urine of pregnant women, and of persons affected with intermittent fever. The distinction is, that in the latter cases the presence of sugar is temporary and in small quantities, and there is an absence of other characteristic symptoms. In diabetes insipidus no sugar is found in the urine.

Tests for grape sugar.—Four tests are in general use; namely, Moore's, Trommer's, Fehling's, and the fermentation test.

MOORE'S TEST.—In employing this test equal parts of

urine and liquor potassæ are mixed in the test tube and the mixture is heated to boiling. The sugar is then decomposed and yields glneic and melassic acid, which gives a brown color to the liquid, the tint varying from a light brown to almost black, according to the amount of sugar contained in the urine. The upper half of the mixture may alone be boiled, so as to show in the tube the contrast between the two portions.

TROMMER'S TEST.—To a small quantity of urine, in a test tube, add a drop or two of a solution of copper sulphate, so as to give a faint but distinct blue color to it. To this add a quantity of liquor potassæ equal to the quantity of urine. If no sugar is present a pale blue precipitate of cupric hydrate is thrown down, and does not dissolve on shaking; but if sugar is present the precipitate re-dissolves, forming a rich blue solution. The mixture should then be boiled, when the cupric hydrate is deoxydized and a precipitate of yellow or orange-red cuprous oxide is thrown down, indicating the presence of sugar.

FEHLING'S TEST.—Fehling's test is more delicate, and shows the presence of small quantities of sugar. Prepare a mixture of eight grains sulphate of copper, thirty grains tartrate of potash, and one fluid ounce of liquor potassæ. Fill a test tube one inch deep with the mixture; apply heat until it boils; then add a small quantity of the urine to be examined. If the urine contains sugar, the mixture changes to an intense, opaque, yellow color, and an abundant reddish or yellowish precipitate is thrown down. If there is no change in color, nor any precipitate, add more urine until the quantity equals that of the mixture and heat, when if there is no change in the appearance, no sugar is present in the urine.

FERMENTATION TEST.—Fill a test tube with the suspected urine, mixed with a little brewer's yeast. Invert the tube over a vessel also containing the urine. If sugar be present it will be decomposed and yield carbonic acid, which will displace the urine in the top of the tube. Or the test tube may be filled as before and closed with a well-fitting cork, through which a piece of glass tube may be passed, nearly to the bottom of the test tube. Place the tube upright, when, if there be sugar, the liquid will be forced up through the glass tubing by the formation of carbonic acid.

QUANTITATIVE TEST.—Fehling's method is that most frequently employed. Its application depends on the fact that one atom of pure grape sugar—180 is capable of reducing

exactly five atoms—397 of cupric oxide (Cu. O.) to cuprous oxide ($\text{Cu}^2. \text{O.}$). If we knew, then, how much oxide is reduced by a given quantity of urine, it is easy to estimate the quantity of sugar it contains. This may be done by adding a solution of copper of known strength, drop by drop, to a measured quantity of urine, until reduction ceases. But in practice it is found more convenient to add the urine gradually to a known quantity of copper solution, boiling it after each reduction until the whole of the blue color is discharged.

An approximate quantitative test is shown by the specific gravity. Every degree of specific gravity above normal urine represents one grain of sugar to the fluid ounce.

Put four ounces of urine in a twelve-ounce bottle, together with a tablespoonfull of brewer's yeast, and stop with a cork, into which a nick has been cut to allow the escape of carbonic acid gas, formed by the decomposition of the sugar. A tightly corked four-ounce bottle is filled with the same urine, but without yeast, and both kept for twenty-four hours at a temperature of seventy-five degrees. When fermentation is completed, and the urine found to be free from sugar, its specific gravity may be taken and compared with the urine in which no yeast was placed. If one is 1020 and the other 1040, each fluid ounce of the urine contains twenty grains of sugar.

Prognosis.—The prognosis depends considerably upon the age; the younger the patient the less the prospect of recovery. Few patients recover if the disease is contracted prior to the age of twenty.

As regards complete cure the prognosis is not good at any age, but when the disease occurs in middle life it may be much relieved by attention to diet, hygienic precautions, and appropriate medication, so that life may be prolonged for many years in comparative comfort.

Pathology.—By the action of the saliva, and the pancreatic and intestinal juices, starch and cane sugar are converted into grape sugar, which is carried by the portal vein into the liver, and there converted into glycogen and stowed away in the hepatic cells for gradual distribution during fasting. How the transformation is effected we do not know; we simply know the fact. Glycogen quickly disappears from the liver of a starved animal, but it quickly reappears on sugar being introduced into the stomach.

Diabetes, of a remittent or intermittent type, may thus

arise from deficient conversion, by the liver, of sugar into glycogen, the sugar being allowed, instead, to pass into the general circulation, to be finally eliminated by the kidneys.

It is probable that the glycogen formed by the liver is gradually transformed into sugar again, and passing into the general circulation is destroyed in the blood, muscles, lungs, etc.; therefore, diabetes may arise from lessened consumption of sugar in the aforementioned tissues, due either to the insufficiency of the ferment which serves to convert sugar into lactic acid and glycerine; to an altered quality of the sugar, which enables it to resist the action of the ferment; or to diminished circulation through the muscles, preventing the sugar from coming sufficiently into contact with the ferment. The last accounts for the greater prevalence of the disease among persons of sedentary habits.

Treatment.—The most important consideration in the treatment is a strict attention to diet. The unconsumed sugar in the circulation is a positive injury, and should be reduced by eliminating, as far as possible, from the dietary all articles containing sugar and starch. Bread, pastry, puddings, rice, sago, arrowroot, farina, potatoes, beans, peas, etc., must not be eaten. Liver, on account of the glycogen it contains, should be avoided as an article of food. The patient should also partake sparingly of milk, because it can be converted into a sort of sugar. Meat, eggs, soup, butter, oil, cream, cheese, nuts; and such vegetables as turnips, cabbages, asparagus, lettuce and spinach, may be partaken of freely. Bread made from bran from which the starch has been washed is recommended. Patients demand bread, and if the bran bread proves injurious, or very repugnant to the patient, Dr. Richardson advises that the patient be permitted to eat sparingly of white bread toasted, or graham bread. Toasted bread appears less liable to cause sugar in the urine than untoasted.

The diet should be mixed. An exclusively meat diet is liable to lead to the excessive formation of urea, and is too readily absorbed. It is better to vary the diet by a judicious mixture of vegetable food containing no starch or sugar. In some cases of diabetes the appetite is voracious, and the quantity of food should be restricted within reasonable limits. The quantity of water drank must be regulated by the thirst. The patient should not drink excessive quantities, but just enough to allay his thirst. Water acidulated with lemon juice is useful in allaying the constant desire for drink.

Moderate and regular exercise is highly beneficial. Dr. Richardson gives the following advice, having followed it himself with marked benefit: "The exercise should be regularly sustained day by day; even in wet weather it should not be omitted. Of course great care should be taken against wet feet, and the shoes or boots ought to be changed in wet weather on returning home. The exercise should never be carried to real fatigue; a feeling that exercise has been taken is the most that should be felt. To carry into effect regular and sustained daily exercise requires great moral courage and energy, the languor and feeling of weakness are so great; but if the exercise be only carried out patiently and perseveringly the task will not only become more and more easy, but soon no longer a task but positively a pleasure."

Bathing in warm water is refreshing and beneficial. The clothing should be warm, and carefully adapted to the various changes of the weather.

The remedies are *Nitrate of Uranium*, *Argentum*, *Helonias*, *Kreosote*, *Vichy salts*, *Arsenicum*, and *Phosphoric acid*.

Raué and Lilienthal give a large list of remedies with instructions for their use.

Cures are reported by *Arsenicum*, *Kreosote*, *Cuprum met.*, *Phosphoric acid*, *Helonias*, *Moschus*, *Lactic acid*.

I used *Phosphoric acid* with great benefit in one case, but eventually the patient died of phthisis at the age of sixty-eight. Another patient, a fat, portly man, was apparently cured by the persistent use of *Vichy salts*. The sugar disappeared from the urine, and the patient appears well at the present time (about five years from the beginning of treatment).

I am inclined to believe that strict attention to diet, and exercise, avoidance of exposure, and excesses of all kinds, promise better results than the administration of medicines.

DIABETES INSIPIDUS.

This disease is characterized by a great and persistent increase in the quantity of urine, but with absence of sugar and albumen.

Anatomical appearances.—The lesions most commonly found on post-mortem examination are atrophy and degeneration of the kidneys, multiple abscesses of these organs, and, occasionally, hypertrophy. Tumors, inflammatory and de-

generative changes in the medulla oblongata, and syphilitic exostoses have been found in the cranium. Enlargement of the mesenteric glands has also been found.

Symptoms.—The chief symptoms in diabetes insipidus are: profuse secretion of pale, limpid urine, of low specific gravity—1003 to 1007. It differs in this respect in a marked degree from diabetes mellitus. It is slightly acid, but it is more prone to alkaline decomposition than normal urine, and speedily becomes neutral or alkaline. The secretion is frequently enormous, not infrequently averaging from twenty to forty pints in twenty-four hours. In consequence of the great loss of fluid through the kidneys there is thirst, and dryness of the mouth, fauces, and skin. Occasionally there may be profuse perspiration and ptyalism in place of dryness of the skin and mouth. The appetite is not generally increased. The general health is not seriously impaired, and, except for the tormenting thirst and the frequent necessity for micturition, the disease may cause but little annoyance or suffering for many years.

The disease usually begins gradually, and may escape notice at first, until the quantity of urine voided and the increasing thirst calls the attention of the patient to his condition. In some cases there are precursory symptoms; such as sleeplessness, headache, irritability of temper, and diminished sensibility and motility of the extremities. Occasionally the complaint comes on suddenly, following convalescence from fever, exposure to cold, a debauch, or violent muscular effort.

The duration of the disease is very variable. It may terminate fatally in a few months, or be protracted for many years. In one instance the person affected lived for fifty years afterward. Death sometimes occurs from innutrition, emaciation, and asthenia; but more generally in consequence of some complication, such as pneumonia, or disease of the brain or spinal cord. In the latter case a fatal termination is preceded by paralysis, convulsive motions, and coma.

Causation.—Predisposing causes are sex, heredity, and temperament. The disease is more liable to occur in males and in persons of nervous temperament. The principal exciting causes are injuries to the brain and spinal cord; sudden and powerful emotion, as intense grief; exposure to cold; intemperance; violent muscular efforts. It may also occur after recovery from continued and intermittent fevers.

Diagnosis.—Diabetes insipidus needs to be distinguished

from diabetes mellitus, and from cases of polyuria, in which an excessive quantity of urine is secreted. From diabetes mellitus it will be discriminated by the absence of sugar and albumen in the urine. Polyuria is a temporary condition; whereas in diabetes insipidus the increased secretion is persistent.

Fear and anxiety cause excessive secretion of urine, but with the cessation of the emotion the secretion assumes the normal condition. Hysterical patients during the paroxysms sometimes void great quantities of urine.

Prognosis.—The prognosis is unfavorable as regards cure. Life, however, is prolonged for an indefinite period; and the patient, if not cut off by some intercurrent disease, will not have his life materially shortened. Unfavorable symptoms are; voracious appetite, followed by anorexia, emaciation, and a dry, harsh, withered skin.

Treatment.—The two most characteristic symptoms of the disease; namely, profuse discharge of pale, limpid urine, and excessive thirst, are found in the pathogenesis of the following medicines: *Aconite*, *Belladonna*, *Ignatia*, *Nitrum*, *Squills*.

ACUTE BRIGHT'S DISEASE.

(*Synonyms*, CROUPOUS NEPHRITIS, ACUTE DESQUAMATIVE NEPHRITIS, ACUTE INFLAMMATORY DROPSY, ACUTE ALBUMINURIA, ACUTE TUBAL NEPHRITIS.)

All these names have been given to a disease of the kidneys, which is most commonly a sequel or accompaniment to scarlatina, characterized by the presence of albumen in the urine, and certain morbid changes in the kidneys.

Morbid anatomy.—The changes in the kidneys are an increase in weight and volume, sometimes to twice the normal standard. The substance of the kidney is congested. The cortical or external portion of the kidney is also congested. In the tubes are an abundance of epithelial casts and blood corpuscles, such as are found in the urine. Fibrous exudations are found in the tubes of the cortical and pyramidal portions of the kidneys. Hence one of the names of the disease, acute tubal nephritis.

Symptoms.—The first symptom is cedema, which usually appears first in the face, under the eyes, rapidly extending over the body; about the same time there is more or less fever, preceded by chilly sensations, with loss of appetite, thirst,

and pain in the back; occasionally vomiting occurs; the countenance is pallid and wax-like; the skin is dry. Sometimes the general effusion is very great, and the limbs, scrotum, penis, and labia are very œdematous. There are also accumulations of serum in the cavities of the pericardium, pleura, and peritoneum. The urine is scanty, and in some cases totally suppressed. It is usually of a smoky or dusky hue, and has a faint, unpleasant odor, similar to that of flesh burning. Examination by heat or nitric acid reveals the presence of albumen. Its specific gravity is usually increased. The quantity of albumen varies from eighty to four hundred grains per day. The microscope shows tube casts, blood corpuscles, renal epithelium, and broken down debris of diseased structures.

The duration of acute Bright's disease is from a few days to several weeks. In favorable cases the urine first increases in quantity; the amount of albumen diminishes; the blood, corpuscles, tube casts, and broken down tissues gradually disappear; the œdema subsides; absorption of serum in the cavities takes place; the skin becomes moist. The period of recovery lasts from ten days to three weeks. In unfavorable cases convulsions and coma occur in consequence of retention of urea in the blood. Blindness is an occasional symptom, from paralysis of the optic nerves.

Complications.—Complications are not as common in acute as chronic Bright's disease, nevertheless they are not infrequent. The most frequent complications are pneumonia, bronchitis, and pleuritis. Peritonitis and pericarditis are less frequently observed.

Causation.—The disease is most common to childhood and youth, and in the large majority of cases is associated with scarlatina, and is frequently considered under the head of post scarlatinal dropsy. It occasionally occurs in connection with diphtheritis, epidemic cholera, measles, and typhoid fever. When associated with scarlet fever it usually occurs from ten to fourteen days from the invasion of that disease.

The exciting causes are exposure to cold, such as lying or sitting on the damp ground; exposure to a draft of cold air; drinking cold water when heated, etc. Occasionally the disease is induced by fatigue and great mental anxiety.

Diagnosis.—The diagnosis is generally readily made. The scanty and smoky urine; the presence in the urine of albumen, blood corpuscles, casts, and epithelium; the œdema; the dropsical effusions, following the pyrexia, point unmistakably

to the nature of the affection. When the affection has lasted some time it is important to determine whether or not it has lapsed into the chronic form of Bright's disease. The presence of blood and renal epithelium, and the absence of fat globules in the urine, are diagnostic points.

Prognosis.—Generally the prognosis is favorable. But if the urine is very scanty, or suppressed for any considerable period, there is great danger of uræmic convulsions. Pneumonia, or inflammation of the pleura or pericardium, are dangerous complications. Effusions into the pleural or pericardial cavities are also attended with danger to life. Until albumen has entirely disappeared from the urine there is danger that the disease will run into the chronic form.

Pathology.—The disease is essentially a catarrh of the uriniferous tubes, with greatly increased epithelial growth. The first step in the morbid process is an inflammatory congestion of the organs, with rapid swelling and more or less extensive rupture of the capillaries, especially those of the Malpighian tufts; then increased production of the epithelial cells, crowding and distending the tubules, and therefore compressing and impeding the circulation through the capillaries. The excretory function of the organ is thus interfered with, and the blood is poisoned with excrementitious matter. The urine becomes scanty and deficient in its proper constituents; and as it passes through the ducts it detaches and carries with it the epithelial lining, blood and fibrinous exudation. The excessive proliferation of the epithelium gives to the kidney its pale, mottled appearance, instead of the natural, red color.

Treatment.—The chief remedies are *Aconite*, *Apis*, *Terbinthina*, *Cantharis*, *Hellebore*, *Cuprum*.

ACONITE is indicated during the pyrexia. The symptoms are chill, followed by high fever, dry heat, scanty urine of a dark color, pain in the lumbar region. When the attack is caused by exposure to wet and cold, or by suppressed perspiration, *Aconite* should be given.

APIS is indicated when the congestive stage has subsided. The symptoms are œdematous swelling of the face; face wax-colored and pale; scanty, high-colored urine; urine reddish-brown, bloody, albuminous, and containing tube casts and renal epithelium; dropsy of the scrotum, œdema of the labia; general œdema; effusion into peritoneal, pleural and pericardial cavities.

I have used *Apis* in acute Bright's disease, following scarlet fever, with most gratifying results.

TEREBINTHINA is indicated with the following group of symptoms: Scanty, dark, *smoky*, urine; albuminous urine; turbid sediment; urine contains renal epithelium; *bloody urine*, the blood being thoroughly mixed with the urine. *Terebinthina* alternates well with *Aconite* in the first stage of the disease.

CANTHARIS is indicated during the pyrexial period. Its symptoms are: high fever; pulse full and hard; scanty, high-colored urine; suppression of urine, with symptoms of uræmic poisoning. Urine contains albumen, tube casts, epithelium, and blood corpuscles.

HELLEBORE is useful in dropsical effusion, especially in hydropericardium and hydrothorax, with suppression of urine.

CUPRUM MET. is indicated for suppression of urine, followed by uræmic convulsions.

If the general anasarca is excessive, vapor baths will prove beneficial, by exciting copious perspiration. During convalescence special care should be taken to guard against exposure, as patients continue liable to relapses for a considerable time; the slightest exposure being followed by reappearance of albumen in the urine. The patient should be confined to the house until the urine becomes entirely normal. The dress, during convalescence, should be warm. Flannel underclothing is an efficient means of guarding against taking cold.

The remedies for complications which may arise are such as are indicated in these diseases. *Aconite*, *Bryonia*, *Phosphorus* are the principal. *Chelidonium* is especially indicated in pneumonia occurring during the course of acute Bright's disease.

CHRONIC BRIGHT'S DISEASE.

Four varieties of alterations of structure are found in the kidneys of those who have died of chronic Bright's disease; namely, 1st. The large, white kidney. 2d. The cirrhotic, in which the kidneys are contracted, granular, and brownish or red. 3d. Lardaceous or waxy kidney. 4th. Fatty kidney. Some writers only mention the first three varieties. These conditions are not always found to exist alone, but each type may be complicated with morbid conditions belonging to another type. They are all characterized by the presence of albumen in the urine in greater or less quantities, by certain

lesions of the kidneys, and by pathological changes in other organs of the body.

It is not easy during life to differentiate the different varieties of this disease. It is held that if uræmia comes on suddenly, without any previous symptoms of serious disturbance, it is probable that the disease is cirrhotic kidney. If albuminuria and dropsy, with occasional attacks of palpitations of the heart, and pleuritic pains have existed for some time, the large, white kidney will be found on post-mortem examination. The other varieties are, by many, thought to be intermediate between the two first, or to be sequels to them. Thus fatty degeneration is regarded as the second stage of large, white kidney disease, although it may occur independently of it in old people, as degeneration may occur in other organs.

The pathological appearances vary very much in different cases. In the first variety, or the large, white kidney, the organ is much increased in size and weight, the weight varying from eight to twelve ounces; the surface is smooth and whitish; the tissue is rather softer than the organ in its natural condition; the enlargement is mainly in the cortical portion. An examination under the microscope reveals disintegrated epithelium, granules, pus, and fatty globules in the uriniferous tubes.

In cirrhotic kidney, on the contrary, the cortical portion is atrophied, and denser than the normal kidney. The exterior surface is covered with small elevations or nodules. The tubes are shrunken and nearly obliterated. The arteries are thickened, and numerous small cysts exist, some large enough to be visible to the naked eye. In fatty kidney abundance of oil granules are found on cutting into the viscus, and oil exudes in abundance on pressure.

In lardaceous kidney the appearance of the organ is that of wax, and the Malpighian bodies are filled with a peculiar looking substance of a transparent appearance. The organ is at first increased somewhat in weight and density, and is paler than the healthy organ; afterward it becomes atrophied. The tubes become waxy, and the secretion of the urine is disturbed. This form of the disease is associated with tuberculosis, constitutional syphilis, and also with amyloid degeneration of the liver and spleen.

Symptoms.—It is very seldom that this disease comes under the notice and attention of the physician at the outset. It pursues its course stealthily and insidiously, until finally,

either by suppression of the urine and consequent uræmic poisoning, or by the advent of dropsy, the patient seeks the advice and help of his physician; and then usually its ravages have become so extensive that little can be done to arrest its progress. It may be doubtful if even at the outset the physician's skill is called into requisition whether the disease is curable, except in a small minority of cases; but it certainly appears reasonable that there would be a much better prospect for recovery, or at least a greatly increased term of life. Usually the first symptom which alarms the patient is the appearance of œdema, which is commonly first seen under the eyes or in lower extremities, and finally culminates in general anasarca and effusions into the cavities of the body. There is generally preceding the appearance of œdema, some general impairment of the patient's health, manifested by a loss of vigor, an unusual debility, with an anæmic appearance; but these symptoms are attributed to any cause but the true one. The dropsy varies much in degree, from slight œdema of the feet and face to enormous accumulations of water in the cellular tissue and abdomen. The scrotum and labia are sometimes very much distended. Dropsy is not, however, a constant or early symptom of all varieties of the disease. In cirrhosis of the kidney, suppression of the urine and symptoms of uræmic poisoning are frequently the first noticeable symptoms of impending mischief, and in the lardaceous or waxy kidney, albuminuria and consequent dropsy come only in the later stages of the disease. What is the cause of the dropsy? It may arise from several causes. The urine may not be as free in quantity, and so an unusual excess of water may be retained in the system and escape into the cellular tissue; or the loss of albumen makes the blood more fluid and the watery portion transudes through the walls of the blood vessels. It is also supposed that the viscosity of the blood consequent upon the presence of albumen aids materially its passage through the capillaries, and the loss of this viscosity, consequent upon the loss of albumen, retards the circulation of the blood and thus facilitates its transudation. There is also a peculiar waxy appearance of the face, which is characteristic of the disease. The skin is dry, harsh, and sallow; the appetite capricious, at times almost voracious; there is dyspepsia with gastralgia, depression of spirits, neuralgic and rheumatic pains, especially in the chest. Headache is a constant symptom in a large number of cases. Dyspnœa, from the pressure of water

either in the thoracic or peritoneal cavities, is sometimes present.

An examination of the urine shows albumen, and cylindrical casts. Epithelial, granular, fatty, and waxy casts are also present, and denote the different forms of the disease.

In a certain proportion of cases the vision is affected. There may be diplopia or double vision, night blindness, myopia, presbyopia, or amaurosis. The ophthalmoscope shows lesions of the retina and optic nerve. Vomiting and purging occasionally are present in the disease.

Toward the close, symptoms of uræmic poisoning are apt to develop. This may result in coma, or in convulsions followed by coma, which is almost always fatal. Uræmic convulsions may occur suddenly in the cirrhotic form of the disease, without the long train of premonitory symptoms which belong to the other forms.

The disease usually pursues an interrupted course, being subject to occasional exacerbations with intervals of apparent quiescence. The exacerbations are induced by exposure to cold, errors in diet, protracted drunkenness. The remissions are more or less complete; in some cases the only evidence of the activity of the disease being the presence of albumen in the urine.

The immediate cause of death may be anæmia, innutrition, anasarca and exhaustion, uræmic convulsions, coma, uncontrollable diarrhœa, hydrothorax, œdema of the glottis, or of some one of the complications as pleuritis with effusion, pneumonia, pericarditis, or phthisis.

The duration of the disease varies widely in different cases and in the different varieties. The average duration is from two to three years. Death may ensue in six months or life may be prolonged five or six years.

Complications.—The complications most liable to occur during the course of Bright's disease are pleuritis, pericarditis, simple hypertrophy of the heart, valvular disease of the heart, phthisis, and pneumonia. They may break out at any period and seriously increase the danger of the malady.

Causation.—The most common predisposing causes are habitual intemperance, gout, atheromatous degeneration of tissues, repeated exposure to cold. Many cases result from acute Bright's disease passing into the chronic form.

Diagnosis.—The diagnosis of chronic Bright's disease is usually readily determined by the persistent presence of albumen and casts in the urine, together with the accompa-

nying symptoms belonging to the malady. The difficult points to determine are: First, how to distinguish acute and curable cases from chronic and irremediable ones, and to determine the nature of the lesions going on in the diseased structures.

If albumen still remains in the urine for some time after the febrile symptoms of acute albuminuria have subsided, time will be required to determine whether the disease has lapsed into the chronic form, but every day that passes without diminution of the quantity of albumen renders it more probable that the time of recovery has passed.

Prognosis.—The prognosis is unfavorable. The lesions in the kidneys are generally irreparable.

If the structural changes cease to advance, if the effusions into the cellular tissue and the cavities are arrested and absorbed, the disease may remain stationary for months and years, and the patient maintain a condition of comparative comfort. Even in the more advanced cases, amelioration of the more distressing symptoms may be brought about. In a certain proportion of cases by proper hygienic and dietetic precautions and appropriate medication patients survive from five to even fifteen years.

Unfavorable symptoms are: persistent dryness of the skin, decrease of the quantity of urine excreted, increasing proportion of albumen, excessive serous effusion, uræmic symptoms, great cardiac disturbances, and attacks of pneumonia and pericarditis.

Treatment.—Diet, habits of life, and general hygienic precautions, constitute an important part of the treatment. The diet should be light and nutritious; the food such as will be easily digested and readily assimilated. Milk, as a rule, agrees well with the patient, and may be freely given. A milk diet has been highly recommended by some physicians, as not only an excellent article of diet, but as possessing positive therapeutic power. I append an article from the *Medical and Surgical Reporter*:

“**MILK DIET IN BRIGHT'S DISEASE.**—Since we know not at present any drug that possesses therapeutic value to any marked extent in this terrible and fatal disease, and since it is daily making sad havoc among human beings, and principally among that class who, by reason of their valuable public labors, are particularly necessary to the welfare of the world, therefore it becomes a medical question of paramount interest that we should discover some potent method of combat-

ing this very prevalent disease. Some years since Carel first called attention to the treatment of Bright's disease by the use of a milk diet, and since then Duncan, as well as many other prominent physicians, have written on this subject. We have ourselves seen some remarkable results follow this treatment, while Dr. S. Weir Mitchell, of our city, is now quite an enthusiast on this subject. This method of treating a formidable disease has received sufficient distinguished endorsement to recommend it seriously to our notice. We would, therefore, ask all physicians who read this article to try this method of treatment, and to furnish us with their experience, which we will publish. The milk is used thoroughly skimmed and entirely freed from butter. To procure the best results it has been advised that the patient shall restrict himself absolutely to milk and continue the treatment for a long time. If it disagrees with the stomach (as it will in some cases), Dr. Mitchell advises that the patient be put to bed, and the treatment commenced with tablespoonful doses, to which lime water is added, until the stomach tolerates the milk, when from eight to ten pints daily should be taken, and absolutely nothing else. The sanction of such a distinguished physician as Dr. Mitchell forces us to seriously consider the merits of this treatment, and we trust to receive the experience of all readers of this journal who have cases of Bright's disease to treat."

Reform in injurious habits which are predisposing or exciting causes of the disease, must be effected, such as intemperance, exposure to cold and wet, etc. The clothing must be adapted to the weather and to sudden changes of temperature. Flannel should always be worn next to the skin. Moderate exercise, shampooing the skin, and warm baths are beneficial.

The remedies for the lesions of the kidneys are *Apis*, *Lycopodium*, and *Plumbum*.

APIS.—*Apis* is one of the most valuable remedies, both in acute and chronic Bright's disease. It is indicated for the following symptoms: Aching pains in the lumbar region; scanty secretion of urine; albuminous urine; blood corpuscles, renal epithelium and tube casts in the urine; œdema of the face and lower extremities; pale, waxy, and almost transparent skin. *Apis* proves more beneficial in the high than the low potencies.

LYCOPODIUM.—Urine dark red, scanty, albuminous; ascites; hydropericardium.

PLUMBUM.—Raue reports one case of Bright's disease, of the cirrhotic variety, cured by *Plumbum*. The 30th trituration was given; a dose once in four hours.

In the transactions of the New York Hom. State Society I find a case reported by Dr. Hunt as cured by *Asclepias Syriaca*; and one reported by Dr. Lindell, cured by *Terebinthina*.

Homœopathic literature furnishes very meager reports of cures of this disease. When once firmly established it almost invariably proves fatal.

Palliative treatment.—The remedies most efficient for serous effusions are: *Apis*, *Apocynum*, *Digitalis*, *Helleborus*, *Lycopodium*.

Pericarditis: *Aconite*, *Bryonia*, *Rhus*.

Pericarditis with effusion: *Apis*, *Digitalis*.

Pleuritis: *Aconite*, *Bryonia*.

Pleuritis with effusion: *Digitalis*.

Pneumonia: *Bryonia*, *Phosphorus*, *Tartar emetic*.

Phthisis: *Phosphorus*, *Lyc.*, *Stannum*, *Cal. carb.*

DIGITALIS is indicated for cardiac insufficiency. The symptoms are: weak impulse of the heart, feeble pulse, general anasarca, dyspnœa on lying down, pale face, general debility.

Uræmia.—Uræmia is liable to occur in cases of complete suppression of the urine, and occasionally when the discharge is scanty. The excrementitious material which is normally removed out of the body by the kidneys, namely, urea and uric acid, and also some of the products of decomposition and tissue metamorphosis, such as creatine and creatinine, are retained in the blood and give rise to a series of phenomena called uræmia.

Uræmic symptoms generally begin insidiously, with headache, nausea and vomiting, succeeded by sluggishness, apathy and somnolence. The symptoms may pass away, or be followed by convulsions and coma. In some cases the patient is suddenly attacked with coma without any premonitory symptoms.

Headache is generally present in uræmia. The pain is felt at the back of the neck or behind the orbit, and with it there is a feeling of compression and weight in the vertex or forehead.

Derangements of sight are common. The patient complains of a dimness of vision, as though he were looking through a mist, or of complete, though transient, blindness.

Uræmic convulsions resemble those of epilepsy. They

occur in single paroxysms, or in a succession of paroxysms, following each other at varying periods of a few minutes or hours, the patient during the intervals remaining wholly unconscious, with stertorous breathing, pale face and dilated pupils, but capable of being partially aroused when spoken to or shaken.

Uræmic coma comes on gradually, the patient passing into complete stupor in the course of two or three days, or else he is stricken down suddenly, as in apoplexy, with which, in the absence, or ignorance, of the characteristic symptoms of Bright's disease, it is liable to be confounded.

The principal remedies for uræmia and uræmic convulsions are: *Cuprum met.*, *Hydrocyanic acid*, *Opium*, *Nicotin*, *Terebinthina* and *Phosphorus*.

CHAPTER IV.

DISEASES OF THE FEMALE ORGANS OF REPRODUCTION.

PRURITUS VULVÆ—SYMPTOMS—TREATMENT. VULVITIS—SYMPTOMS—TREATMENT. ABSCESS OF THE LABIA—TREATMENT. VAGINISMUS—SYMPTOMS—TREATMENT. VAGINITIS—SYMPTOMS—TREATMENT. INFANTILE LEUCORRHOEA—SYMPTOMS—TREATMENT.

PRURITUS VULVÆ.

THIS annoying complaint may be a purely local affection, or only a symptom of disease elsewhere. It consists of a perverted sensibility of the nerves of the parts, and is much more frequently met with in middle life.

When pruritus vulvæ is a local affection the general health is usually affected. There is poor digestion, loss of appetite, and constipation. In some cases pruritus is merely the symptom of some uterine disease, as carcinoma, displacement, leucorrhœa, tumors of the cervix, cervicitis, etc. In the early stages of labor the disease is often very annoying. During the climacteric period pruritus is not infrequent.

Symptoms.—Intense itching, smarting, tingling sensations, and in some cases formication, are the usual symptoms. The itching is sometimes so intolerable that the patient cannot forbear scratching herself, by which the parts are inflamed and excoriated. Leucorrhœa is generally present, and if acrid, greatly aggravates the irritation, and also causes more or less swelling. The itching most commonly occurs at night, after going to bed, and is sometimes accompanied by a degree of sexual excitement. It is also induced by exercise in a heated room, and by any excitement of the circulation.

In some cases the itching occurs in paroxysms, the patient ordinarily feeling quite free from it, or only a slight degree of irritation. From time to time an intense itching comes on, which, beginning at some spot on the pudenda, radiates thence to the adjacent parts, driving the patient nearly wild.

Pruritus may be mistaken for prurigo, chronic eczema, and the irritation produced by lice, and care should be taken to ascertain the true nature of the affection.

Treatment.—If the itching is caused by any acrid discharges from the vagina or uterus, or by any disease of the internal structures, such cause must be removed before any relief from the pruritus can be obtained.

Warm hip baths and solution of carbolic acid are efficient local remedies. A solution of one part acid to sixty parts water may be used two or three times a day. Vaginal injections of warm water are also beneficial.

If the itching is caused by the presence of pediculi, a mixture consisting of one part of *Unguentum hydrargyri* and three parts of *Lard* may be smeared over the pudenda. If due to ascarides in the rectum, injections of *Sweet oil*, *Lime water*, or *Salt water* may be prescribed. The remedies are: *Caladium*, *Conium*, *Nitric acid*, *Petroleum*, *Sepia*, and *Silicia*.

CALADIUM.—Rauè observes that in his own experience, and that of others, *Caladium* has proved a most efficient remedy.

CONIUM.—Violent itching of the vulva; worse after menstruation.

NITRIC ACID.—Itching, swelling, and burning pain of the vulva.

PETROLEUM.—Violent pruritus of the vulva.

SEPIA.—Itching eruption on inner labia. Itching of the vulva, changing to burning on scratching. Pruritus vulvæ during pregnancy.

VULVITIS.

(*Synonym*, INFLAMMATION OF THE VULVA.)

Simple vulvitis may arise from want of cleanliness, or from violent or excessive sexual intercourse. It may also proceed from a venereal taint, or from some disease of the uterus. The symptoms are: inflammation and swelling of the parts, which are covered with mucus; great pain and tenderness; scalding pain during and after micturition; aching about the loins and thighs; discharge of mucus, and, in severe attacks, excoriation. In exceptional cases, particularly in a depraved condition of the system, gangrene of the parts may occur; being met with in parturient women, who have been exposed to the miasm of puerpural or typhoid fever.

Follicular inflammation of the vulva is an obstinate and painful disease.

It has its seat in the numerous sebaceous follicles, and other minute solitary glands scattered over the mucous membrane of the vulva. The symptoms are: more or less inflammation of the parts; constriction of the sphincter vaginae; troublesome leucorrhœa; smarting and burning of the parts; painful micturition; pains in the back and thighs. Inspection shows the parts studded with a number of raised vascular points, sometimes having specks of ulceration on their summits. After a time the points coalesce, so that a strip of highly injected mucous membrane is formed; while at a later period this vascularity disappears and the tissues look as if they were covered with white paint.

The heat and irritation about the vulva; the painful urination, and the offensive nature of the discharge, make the disease very annoying and troublesome. There is generally considerable constitutional disturbance, manifested by debility, loss of appetite, and mental depression.

Treatment.—Simple vulvitis is readily amenable to treatment. Thorough cleanliness is of the utmost importance. The parts should be frequently bathed with warm water, in which a little *Subacetate of Lead* is dissolved.

Follicular vulvitis is a much more intractable affection. The best local applications are a wash of three parts water and one part each of *Calendula* and *Glycerine*, or a solution of *Borax* or *Hydrastin*, applied three or four times a day. The general health should be improved by appropriate medication.

The remedies are: *Arsenicum*, *Calc. carb.*, *Nitric acid*, *Mercurius vivus*, and *Conium mac.*

ABSCESS OF THE LABIA.

Abscess of the labia may occur from injuries, such as a blow; violent sexual intercourse; or by a gonorrhœal or acrid leucorrhœal discharge. The labia becomes the seat of a throbbing pain, which prevents the patient from walking or sitting without much suffering. There is also heat, swelling, sensitiveness to pressure, and some constitutional disturbance.

Commonly when assistance is summoned suppuration has commenced, and the nature of the affection can be easily determined.

The treatment in this case should be an incision sufficiently long to prevent a too early closure of the wound. If evacuation of the pus is delayed it is liable to burrow in the loose connective tissue of the parts.

Hepar sulphur before suppuration is established, and *Silicia* after the pus has been evacuated, are the remedies indicated.

VAGINISMUS.

Dr. Sims defines vaginismus to be "an involuntary spasmodic closure of the mouth of the vagina, attended with such excessive supersensitiveness as to form a complete barrier to coition."

The seat of the disease is in the muscular fibres of the sphincter vaginæ and the hymen. Even should the hymen be ruptured the remains of it—the carunculæ myrtiformes—retain their extreme sensitiveness to touch. In addition to the extreme tenderness of the vagina and hymen, there may be complications, such as inflammation of the follicles of the vulva; fissure of the fourchette; uterine displacement, or a contracted state of the os uteri. In many cases the sensitiveness is such that the slightest touch causes such a degree of spasmodic contraction that the point of a small probe cannot be inserted into the vagina. In some cases sexual intercourse may be had, but usually it causes such extreme suffering that speedily all attempts have to be abandoned. Digital examination finds firm resistance at the entrance of the vagina, and if the finger is inserted it is grasped by the sphincter and held firmly.

The cause of vaginismus is hyperæsthesia of the parts, perhaps from a general irritability of the nervous system. It may also be caused by local irritation; too forcible coition; excessive sexual indulgence during the first months of married life.

Dr. Neflet, of New York, suggests that the excessive use of cosmetics, of which lead is an ingredient, is a fruitful source of vaginismus, and that the disease is one of the symptoms of lead poisoning.

Treatment.—The remedies are: *Aconite*, *Belladonna*, *Berberis*, *Caulophyllum*, *Ignatia*, and *Nux vomica*, according to the indications for their use.

Many gynecologists doubt the efficacy of remedial treatment, and assert that a cure can only be effected by operative interference. Dr. Sims etherizes his patients, and proceeds first to remove the hymen, or if ruptured, the carunculæ myrtiformes; then putting the vagina on the stretch, by inserting two fingers, he makes an incision half an inch deep through the fibres of the sphincter vaginæ, at the lower part of the fourchette; a dilator, well oiled, is then inserted and

retained until the incisions are healed. Subsequent dilation is effected by the introduction of a series of glass or rubber cylindrical dilators of various sizes, increasing the size from day to day until the disease is removed. Dr. Eaton recommends first, however, a trial with the indicated remedies; warm vaginal injections; application of *Belladonna ointment* and *Vaseline*, equal parts, applied with the finger; and scrupulous attention to exercise, diet, and mental quietude, and strict abstinence from sexual intercourse. When these measures fail it will be time to make the incisions and use dilatation.

VAGINITIS.

(*Synonyms*, VAGINAL LEUCORRHOEA, VAGINAL CATARRH.)

Vaginitis is an inflammation of the mucous membrane lining the vagina.

The anatomical appearances are: first, redness, swelling, and dryness of the parts; the prominent folds are greatly swollen, and the mucous follicles project in the form of little cysts. Later in the disease the dryness disappears and there is a profuse secretion of muco-serous or muco-purulent matter. Vaginitis may be either acute or chronic.

ACUTE VAGINITIS.

Symptoms.—The symptoms are: some fever; a sense of heat and burning in the vagina; great soreness and tenderness to the touch; frequent desire to urinate; a feeling of weight in the perineum; profuse discharge of offensive purulent mucus; excoriations of the vulva and adjacent parts; swelling and redness of the mucous membrane.

Causation.—The causes are: exposure to cold and wet; retained secretions; the irritation of a foreign body, as a pessary, or piece of sponge; violent and too frequent sexual intercourse; injuries during parturition, etc.

Diagnosis.—It needs to be distinguished from endometritis and specific vaginitis. From endometritis it is differentiated by specular and digital examination, showing the discharge in the latter disease to be from the uterus instead of the vaginal walls. From specific vaginitis it cannot always be distinguished.

The disease in its acute form lasts from one to two weeks. In the chronic form it may last an indefinite period, and finally merge into ordinary vaginal leucorrhœa.

Treatment.—Perfect rest should be enjoined. Hip baths two or three times a day, and vaginal injections of warm water, if they can be borne, are of great benefit. An application of *Cosmoline*, three or four times daily, to the vulva will be efficient in preventing soreness and excoriation from contact with the acrid secretions of the vagina. The diet should be light and easily digested. If there is any danger of adhesion of the walls of the vagina, a tampon of well oiled cloth or lint may be inserted, but should be changed often.

The remedies for acute vaginitis are: *Aconite*, *Belladonna*, *Cannabis*, *Cantharis*, and *Mercurius*. For subacute and chronic cases: *Arsenicum*, *Sepia*, *Lachesis*, *Pulsatilla*, and *Calc. carb.*

ACONITE is indicated if there is considerable fever; quick, tense pulse; vagina hot, dry, swollen, and tender; weight and fullness in the perinæum.

BELLADONNA is indicated after *Aconite* if there are bearing down pains, headache, flushed face, extreme sensitiveness of the vagina to touch, mucous membrane dark red and injected.

CANNABIS—Vaginitis with copious milky discharge; labia swollen and tender; stinging and burning in the urethra; painful and frequent micturition; more especially adapted to specific vaginitis.

CANTHARIS—Vaginitis with constant urging to urinate; burning in the urethra; nymphomania.

MERCURIUS is indicated in the aphthous and diphtheritic varieties of vaginitis. *Mercurius Pro. iod.*, or *Bin iod.* is perhaps better adapted to the croupous and diphtheritic forms of the disease than the other preparations of *Mercurius*.

In the treatment of chronic vaginitis the relations and complications with other diseases of the organs of reproduction will need to be carefully considered, and such remedies be selected as are indicated by the totality of the symptoms.

INFANTILE LEUCORRHŒA.

Children of all ages are liable to become affected with a discharge from the mucous glands of the vagina, constituting infantile leucorrhœa. Occasionally the disease extends the length of the vagina, giving rise to a profuse discharge of a muco-purulent secretion, fetid and acrid. Children of scrofulous diathesis are more subject to the complaint than others.

The symptoms of infantile leucorrhœa consist of itching,

tenderness and frequent micturition, with more or less pain in voiding the urine. The vulva and urethra are commonly excoriated, as also are the inner parts of the thighs, from contact with the acrid discharge. Not infrequently the parts about the vulva have an erythematous blush. The discharge is mucous or muco-purulent, and it becomes more copious the longer the disease continues. The general health suffers to some extent; the child is restless and feverish at night.

Treatment.—The utmost attention must be paid to cleanliness. The parts should be frequently sponged and syringed out with tepid water, in which a little *Hydrastin* and *Calendula* has been mixed. A teaspoonful of each to a pint of water is sufficient.

The remedies are: *Pulsatilla*, *Cal. carb.*, *Sepia*, *Bovista*, and *Hepar sulphur*. *Bovista* and *Calc. carb.* have in several cases of my own proved very efficient remedies.

Care should be taken that cloths used on the patient should not come in contact with other children.

CHAPTER V.

DISEASES OF THE UTERUS AND ITS APPENDAGES.

METRITIS—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. CHRONIC METRITIS—PATHOLOGICAL ANATOMY—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. ENDOMETRITIS—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT.

METRITIS.

(*Synonym*, INFLAMMATION OF THE WOMB.)

METRITIS, or inflammation of the muscular tissue of the uterus, is a rare affection. When it does occur it is nearly always associated with inflammation of the mucous and serous coverings and the connective tissue.

Symptoms.—The disease begins with a chill or chilly sensations, followed by more or less fever. There is pain and tenderness over the uterus, increased by downward pressure into the cavity of the pelvis. Digital examination shows the uterus swollen, hot, painful and tender. Micturition is painful and frequent. There is a sense of throbbing and tenderness about the groins and perinæum. The uterus is the seat of considerable pain, which is apt to become paroxysmal. In a day or two there is a mucous or mucopurulent discharge from the uterus streaked or mixed with blood. This discharge indicates that the inflammation involves the mucous lining of the uterus. Diarrhœa is present in the majority of cases. Nausea and vomiting are frequently present. The pulse is quick and wiry. The temperature does not rise much above the normal standard. Occasionally in severe cases the serous coat is involved, the inflammation even extending to the peritoneum. In the latter case the pain and tenderness is diffused over the abdomen. The patient generally finds it necessary to lie on her back with the knees drawn up. Sitting or standing increases the pain, and also the irritability of the bladder.

The disease, when it pursues a favorable course, lasts from five to six days, then subsides without any ill effects remaining.

Not infrequently it passes into the chronic form, resulting in enlargement of the uterus, persistent leucorrhœa, induration of the neck, and occasionally in abscesses of the walls.

In nine cases of abscess, two discharged through the rectum, three through the abdominal walls, two opened into the cavity of the abdomen, resulting in fatal peritonitis; the remaining two were evacuated by an incision through the uterine walls.

Causes.—Sudden suppression of the menstrual flow from taking cold; too violent use of the uterine sound; vaginal injections of cold water; intra-uterine injections, and operations involving incisions into the uterine substance, are causes which induce acute metritis.

Diagnosis.—The diagnosis is determined by the fever, pain, enlargement of the uterus in its antero-posterior diameter, which can be ascertained by bi-manual examination and by the extreme sensitiveness of the organ, which sensitiveness is in the body of the uterus, and not confined to the peritoneal envelope alone.

Prognosis.—The prognosis is not without danger, owing to the liability of the inflammation to extend to the peritoneum, and the possibility of suppuration. Generally the disease terminates in recovery or passes into chronic metritis.

Treatment.—The patient should maintain the recumbent position, with limbs drawn up, if there is any peritoneal complication. Flannels wet with warm water, placed on the abdomen, aid to relieve the pain.

The remedies are: *Aconite*, *Belladonna*, *Bryonia*, and *Veratrum alba*. In the majority of cases *Aconite* and *Belladonna* will effect a cure.

CHRONIC METRITIS.

(*Synonymn*, AREOLAR HYPERPLASIA OF THE UTERUS, CHRONIC PARENCHYMATOUS METRITIS.)

Chronic metritis may affect the parenchyma of the uterus, its mucous lining, or, as more frequently happens, the muscular and mucous tissues are both affected. Inflammation of the muscular tissue is generally an extension from the mucous coat, and results in thickening and induration. Infiltration of the liquor sanguinis into the meshes of the uterine structure takes place, causing enlargement of the organ.

Chronic metritis is a term used by some writers to include somewhat different pathological conditions. Among these are: defective evolution of the uterus after child birth,—a condition more commonly styled sub-involution; congestion, the consequence of long continued displacement; irritation from endometritis or the presence of tumors; dysmenorrhœa, in consequence of a constricted os uteri; the repeated retention of blood within the uterus, eventually leading to a chronic inflammatory condition of the organ. Chronic metritis is also considered under different names. Thomas calls it areolar hyperplasia; Klob, diffuse connective-tissue proliferation; Skene, diffuse interstitial hypertrophy; Scanzoni, chronic parenchymatous inflammation of the womb, etc.

Pathological anatomy.—The uterus is enlarged, though not usually to a considerable degree. Occasionally, however, it may increase to such a size as to reach the umbilicus. The greatest increase in size is in the antero-posterior diameter. The substance of the organ is soft; the mucous membrane lining the uterus is thickened and swollen; the peritoneal coat often shows patches of exudation. The enlargement is in some cases confined to the cervix, in which case the os is broad, marked with erosions and ulcerations, and the lips are swollen and elongated. When the disease has existed for a considerable period a new morbid condition sets in, which Klob describes as follows: “The parenchyma, on section, appears white or of a whitish-red color, deficient in blood vessels, from compression of the capillaries, by the contraction of the newly-formed connective tissue, or from partial destruction or obliteration of vessels during the growth of tissue. The firmness of the uterine substance is also increased, simulating the hardness of cartilage, and creaking under the knife. A uterus which has been engorged, large and soft, finally becomes small, hard, anæmic, and its cavity diminished in size.” Thomas sums up his discussion of the pathology of chronic metritis with the following conclusions:

“1st. The condition ordinarily styled chronic metritis (his areolar hyperplasia) consists in an enlargement of the uterus, due to hypergenesis of its tissues, especially of its connective tissue, which induces nervous irritability, and is accompanied by congestion.

“2d. Decidedly the most frequent source of this state is interference with involution of the puerperal uterus. A very large proportion of the cases of so-called chronic parenchymatous metritis are really later stages of such involution.

"3d. Areolar hyperplasia is often induced in a uterus which has once undergone the development of pregnancy, by displacement, endometritis, and other conditions inducing persistent hyperæmia.

"4th. The same influences may possibly produce it in the nulliparous uterus (most frequently they do so in the neck), but such a result is exceedingly infrequent.

"5th. However produced, the condition is one of vice of nutrition, engendering hyperplasia of connective tissue as its most striking feature, and although attended by many of the signs and symptoms of inflammation it in no way partakes of the character of that process."

Symptoms.—Dr. T. Gaillard Thomas, whose authority is unquestionable, gives the following as the principal symptoms of chronic metritis, or, as he prefers to call the morbid condition of the uterus, "areolar hyperplasia." First he states that it is impossible to present the symptoms of this condition entirely separated from those complications which very commonly attend it, such, for example, as displacement, laceration of the cervix, ovarian congestion, etc. These lesions produce symptoms of their own, which are inevitably mingled with those of the main disorder. The symptoms, therefore, which are due to areolar hyperplasia and its concomitant affections are: "First, if the cervix alone is affected, pains in the back and loins; pressure on bladder or rectum; disordered menstruation; difficulty of locomotion; nervous disorders; pain on sexual intercourse; dyspepsia, headache and languor; leucorrhœa."

If the affection be general or corporal grave symptoms manifest themselves. Chief among them are: A dull, heavy, dragging pain through the pelvis, much increased by locomotion; pain on defecation and coition; dull pains beginning several days before menstruation, and lasting during that process; pain in the mammæ before and during menstruation; darkening of the areolæ of the breasts; nausea and vomiting; great nervous disturbance; pressure on the rectum, with tenesmus and hemorrhoids; pressure on the bladder with vesical tenesmus; sterility.

Physical signs of cervical hyperplasia.—Vaginal touch will generally discover that the uterus has descended into the pelvis, so that the cervix will rest upon its floor. The cervix will be found to be large, swollen, and painful, and the os may admit the tip of the finger. If the finger be placed under the cervix and it be lifted up, pain will usu-

ally be complained of, and if it be introduced into the rectum, so as to press upon the cervix as high as the os internum, it will often reveal a great degree of sensitiveness. Under these circumstances the direction of the uterine axis will generally be found to be abnormal. The cervix, in some cases, will have moved forward and the body backwards, or the opposite change of place may have occurred.

Physical signs of hyperplasia of the body of the uterus.—If two fingers of one hand be introduced into the vagina and placed in front of the cervix, so as to lift up the bladder and press against the uterus, and the tips of the fingers of the other hand be made to depress the abdominal walls just above the pubes, the body of the uterus will be felt between, if the organ be anteflexed. Should it not be detected let the two fingers in the vagina be now carried behind the cervix into the fornix vagina and the effort repeated. If the uterus be retroflexed or retroverted, or even in its normal place, it will be detected at once. By these means we may not only learn the size and shape of the organ, but its degree of sensitiveness. Rectal touch will also, to a certain extent, accomplish the same. The uterine probe can next ascertain the length of the uterine cavity and the sensitiveness of its walls. If the cavity is increased in size, or if it be unusually sensitive, it is evidence that the disease extends to the body of the uterus and is not confined to the neck alone. Increase in size of the organ can also be pretty well determined by careful bimanual examination.

Causation.—Defective involution, or, as more commonly called, sub-involution, is the most frequent cause of chronic metritis. This is most liable to occur in cases in which soon after parturition injurious influences of various kinds act on the uterus and its appendages; such as leaving the bed too early; too violent physical exertion; retained coagula, or fragments of the secundines; acute metritis, perimetritis or endometritis. Retrograde metamorphosis is arrested by these influences; the uterus does not undergo complete involution; fatty degeneration and absorption of its muscular tissue are incompletely performed, and the newly-formed tissues, particularly the connective tissue, are developed to such a degree as to considerably enlarge the uterus. Miscarriages are especially liable to prove injurious on account of the want of proper precautions after them. Other causes are: continued and often recurring hyperæmia, dysmenorrhœa, endometritis, excessive sexual indulgence, long-continued displacement of the uterus, tumors, chronic constipation.

Diagnosis.—The difficulties in the way of a correct diagnosis depend upon what is understood by chronic metritis. Generally the affection is diagnosticated when the cervix or uterus is uniformly enlarged, the walls thickened and abnormally sensitive, and when the case is chronic in character. Chronic metritis may be confounded with pregnancy, tumors in the uterine walls, and peri-uterine inflammations. In pregnancy the objective appearances may be the same, for the size, state, and position are very much the same in both conditions. The menstrual flow and the sensitiveness of the uterus are wanting in pregnancy, and usually serve to distinguish the latter condition from chronic metritis.

Dr. Tilt observes: "When most of the symptoms of early pregnancy are present without menstruation being suspended, in comparatively young women, we may suspect internal metritis. It is sometimes difficult to discriminate between interstitial tumors and metritis. Reliance has to be placed upon the use of the sound, conjoined manipulation, dilatation of the cervix, and examination of the walls."

Prognosis.—Thomas says: "The prognosis in hyperplasia of the entire uterus, or the body alone, is unfavorable as regards a complete cure, though highly favorable to great relief of symptoms and danger to life. Should the patient be approaching the menopause it is possible that after the functions of the uterus cease, atrophy may occur and relief be obtained. But one cannot be sure even of this, for the monthly discharge may give place to metrorrhagia, or all the symptoms may continue in spite of the menstrual cessation. When the neck of the uterus alone is affected a favorable prognosis may always be made; for here there are fewer grave complications to be encountered. The diseased part is likewise more accessible to local treatment, and is also a much less sensitive and important part of the organism. The result of treatment, however, largely depends upon the patient; upon her willingness to forego her inclinations and pleasures, and her readiness to follow the directions and treatment of the physician.

Treatment.—The first indication is to relieve complications which may be present, such as lacerations of the cervix, uterine displacements, endometritis, and vaginitis.

If possible, the patient should be in a condition of complete rest for a considerable portion of time each day, but if this be impossible she should at least avoid all exertion which brings into play the abdominal muscles. Gentle ex-

ercise in the open air is advisable, but should never be carried to the point of fatigue. All weight and pressure should be taken off the heavy and enlarged uterus by suspending the clothing from the shoulders.

The diet should be nourishing and of such articles of food as are easily digested. The condition of the bowels should be sedulously attended to, and constipation carefully guarded against. Sexual intercourse should be interdicted.

Local treatment.—Vaginal injections of warm water are of great value. They may be given either by means of an ordinary Davidson's rubber syringe or a fountain syringe. The latter is preferable, as its use fatigues the patient less. The stem of the syringe should be introduced far enough to touch the cervix, and a stream of water as warm as can be comfortably borne should pour over the cervix for fifteen or twenty minutes, according to the strength of the patient. The patient may sit over a tub while injecting the water. I have found the injection of a small quantity of equal parts of *Tinc. of Calendula* and *Glycerine*, subsequent to the application of warm water, of signal benefit to the patient. A method recommended by Dr. Thomas is for the patient to take a warm bath night and morning, and use the vaginal injection while in the bath. If the patient is unable to leave the bed a bed-pan may be used to receive the water as it flows from the vagina.

The remedies chiefly indicated are: *Apis*, *Arsenicum*, *Belladonna*, *Bryonia*, *Cinchona*, *Ignatia*, *Lachesis*, *Nuxvomica*, and *Sepia*. A careful study of each case will be necessary to find the true simillimum. The disease is almost invariably complicated with other disorders of the reproductive system, and also with derangements of the digestive and nervous functions. The complications materially modify the treatment and render it well nigh impossible to present a group of symptoms which shall indicate the administration of any single remedy.

ACUTE ENDOMETRITIS.

(*Synonym*, ACUTE UTERINE LEUCORRŒA, UTERINE CATARRH.)

Acute endometritis, or inflammation of the mucous lining of the uterus, may be general, or be limited to the neck or body.

Acute endometritis is by no means of infrequent occur-

rence. It runs a rapid course and speedily ends in recovery or assumes a chronic form. Many cases of suppressed menstruation from taking cold are attacks of inflammation of the uterine mucous membrane.

Symptoms.—The disease may begin with a chill followed by fever, but usually manifests no very violent symptoms. The patient complains of pain, weight, and dragging in the pelvis, and in some cases a deep seated pain. There is pain in the back, groins, and thighs. The uterus is either not at all or but slightly enlarged, and a little tender on pressure. Burning and stinging pain is felt in the vagina, together with some pain on micturition and rectal tenesmus. In a few days there is a discharge of a clear viscid mucus, which afterwards changes to a thick, creamy, purulent matter, which examination shows to come from the uterus. If the fluid comes in contact with the skin of the external parts, or of the thighs or abdomen, it proves exceedingly irritating, and may result in excoriations and pruritus.

Examination by touch shows the vagina hot and dry, or covered by the secretion from the uterus. The os is gaping, the cervix swollen and sensitive, and the uterus somewhat prolapsed.

Causation.—The principal causes are: cold from exposure during menstruation; suppressed menstruation; irritating injections; strong cauterization; injuries; excessive sexual indulgence; inflammation of the vagina, simple or specific; and escape of retained menstrual secretion, as after an operation for imperforate hymen.

Diagnosis.—If the symptoms detailed are present, and if with little fever there is a copious discharge of yellowish mucus, with but little pain or tenderness of the uterus, the diagnosis is sufficiently clear.

Prognosis.—The prognosis is favorable. Some cases, however, terminate in chronic endometritis. This is likely to happen in neglected cases, or when the treatment has not been judicious. The disease lasts from two to six weeks.

Pathology.—The mucous membrane shows the changes of acute catarrh. In the first stage there is an intense and active hyperæmia, and the membrane becomes red, swollen, œdematous, and softened. In the second stage the uterine cavity is found to contain a quantity of mucus, or creamy-looking pus, which is more or less mixed with blood. The whole substance of the uterus, says Klob, generally appears to be increased, and its tissue more vascular and succulent, especially in the layers nearest the mucous membrane.

Treatment.—Complete rest, and in some cases the recumbent position, are essential to successful treatment. Free injections of warm water against the cervix are of great benefit. Another excellent injection is composed of one drachm of *Calendula*, two ounces of *Glycerine*, and four ounces of distilled water. The diet should be light and nutritious, mainly consisting of milk, beef-tea and soups.

The remedies which are more particularly indicated for acute endometritis are: *Aconite*, *Belladonna*, and *Actæa*.

ACONITE is indicated if there is chill, followed by fever; sharp pain in the hypogastric region, which is very sensitive to pressure; tenacious, copious leucorrhœa.

BELLADONNA is indicated for the following symptoms: Pain and sensation of weight in the pelvis; dryness and heat in the vagina; vesical irritability; bearing down feeling in the uterus; viscid leucorrhœal discharge.

ACTÆA has the following symptoms: Great tenderness on pressure over the uterine region; suppression of menses from cold, or violent mental emotions, followed by chilliness; fever; pain in the uterus; leucorrhœa, with sensation of weight in the uterus.

As acute and chronic endometritis may be, and is frequently, complicated with metritis, urethritis, vaginitis, vulvitis, with disorders of menstruation, and with derangements of the nervous and digestive system it is necessary that each case should be studied in relation to these complicated conditions.

The remedies most closely allied to them, and among which the proper simillimum may be found, are: *Arsenicum*, *Cannabis sat.*, *Carbo veg.*, *Caulophyllum*, *Hydrastis*, *Lilium tig.*, *Mercurius*, *Nux vomica*, *Pulsatilla*, *Sepia*, and *Viburnum*.

CHRONIC ENDOMETRITIS.

Two forms of this disease are recognized by gynecologists; namely, chronic cervical endometritis, and chronic corporal endometritis.

The former is by far the more common affection of the two. Thomas says: "Of all diseases of the genital system of the female this is without doubt the most frequent, and though not in itself a malady of dangerous character, may prove the starting point for some of the most serious and rebellious of uterine disorders. Exposed as the cervix uteri is to injury during coition; laceration from parturition, and irritation from walking, riding, and lifting, it is not surpris-

ing that its complicated investment should frequently become the seat of disease."

Chronic cervical endometritis affects the mucous membrane extending from the os internum to the os externum, a distance of about one inch and a quarter.

It seems singular that disease of so small a surface should so seriously impair the health. But the mucous membrane lies in many folds and dips down into the mucous glands, which are very thickly strewn throughout the cervix, the number being, according to Dr. Tyler Smith, from two to three thousand. The excessive secretion from these glands is a constant drain upon the patient's strength.

Symptoms.—The most constant symptom is a mucons discharge, or leucorrhœa, on account of which the disease is called cervical catarrh. The discharge resembles boiled starch or thick gum water, and is often very irritating and corrosive. Examination through the speculum reveals the presence of a string of tough tenacious mucus, like the white of an egg, protruding from the os, which can only be detached with some difficulty. The disease may exist for some time without any other symptoms of sufficient importance to attract notice manifesting themselves. Generally, however, other signs of the disease are present. These are: dragging sensations about the pelvis; pains in the back and loins, increased by muscular exertion and exercise; menstruation is too scanty, or too profuse or painful. Before long general disorder of the system is apparent. The patient becomes nervous, irritable, and sometimes hysterical. Digestion is impaired; the appetite diminishes, and, as a consequence, the blood becomes impoverished, and the patient is enfeebled and anæmic.

Physical examination usually shows the os to be somewhat enlarged and its lips everted. The cervix is commonly enlarged, swollen, and red; but in some cases after detaching the mucus protruding from the os, no special evidence of the disease is seen. The os is neither swollen, red, nor everted. There is simply an affection of the mucous glands of the cervix without irritation of the mucous membrane.

The duration of cervical endometritis is very uncertain, depending upon a great variety of circumstances. A radical change in the habits; an avoidance of the causes which induce the disease, may speedily lead to a cure. Very often, however, it runs a long and tedious course.

It is often a matter of some difficulty to determine whether

chronic endometritis is confined to the cervix or extends to the fundus of the uterus. In the latter case the disease is generally more severe, and has a peculiar tendency to set up hysterical affections, and to cause menorrhagia. Digital examination causes more pain than when the disease is confined to the cervix. The introduction of the probe also is more painful, and is liable to cause hemorrhage. The discharge when the cervix is alone implicated is more thick and tenacious than in corporal endometritis. The constitutional symptoms attending the latter are more debiliating and depressing.

Prognosis.—Once firmly established, the disease, if left to itself, remains for a long time unchanged. Under suitable treatment the prognosis is favorable for a decided mitigation of the worst symptoms, and a restoration of the patient to a fair degree of health.

Treatment.—Dr. Thomas says: "The efforts of the physician should be directed to producing an alterative effect upon a mucous membrane which is in a state of chronic inflammation, and the avoidance of all influences which may cause it to spread to adjacent tissues. His first care should be to remove the causes of the disease. Women who live in a moist atmosphere; who keep bad hours; who spend much of their time in bed; or who inhabit hot rooms, will be apt to be affected by the complaint. All such unfavorable circumstances should be modified. If any depressing influence, such as lactation; any habitual discharge; or any cause for mental anxiety, be discovered, it should be carefully removed. The functions of the alimentary canal should be carefully supervised. The diet should be mild and unstimulating, but most nutritious. No system of starvation should be entered upon, for the tendency of the disease is to the production of *spanæmia*, and this we should combat. All spices and stimulating condiments should be avoided. Every day, unless some special contra-indication exists, the patient should take fresh air and exercise, by carriage or on foot, for a time, which should be limited by the circumstances of the particular case. If she should be unable to do this from any particular cause, she should be thoroughly protected, and pure air, even in winter, be allowed to circulate freely in her chamber, all the doors and windows of which should be opened for two or three hours daily."

Appetite and digestion are so frequently impaired in this disease that special attention will need be paid to properly

keep up the functions of the stomach and other organs of digestion and assimilation. Prof. Ludlam observes in this connection: "Both with reference to the prophylaxis and the cure of this complaint, an inherent tendency to scrofulous and catarrhal inflammation should receive our early and constant attention. If the experience of others corresponds with my own, we will find that the prime indication with this class of subjects is to have them sufficiently nourished and their blood up to the healthy standard. In other words, we must not only stop the drain, whatever it may be, which is exhausting their vitality, but also to supply them with such available nutriment as shall more than compensate the waste that has been going on. It may be quite as difficult to select the proper diet, and to arrange all the details to suit each individual case, as it is to select the remedy, but in my judgment it is quite as requisite to the cure of the disorder." He further observes: "Some patients will never get well while they remain within doors; others need a change of scenery and surroundings, and they must travel; and yet another class must remain in a passive state." And again: "Most of the exciting causes of cervical endometritis are avoidable. It will be necessary to remove the patient from under their influence. We should see that there shall be no sudden interruption or derangement of menstruation; that her clothing is suitable and sufficient; that her feet are warmly clad and dry; that her skirts are suspended from the shoulders; that there are no ligatures about her body or her limbs; that she is not the victim of excessive sexual indulgence (especially at or near the month), of uterine displacements, constipation, dysmenorrhœa, dysuria, ovaritis, blennorrhagia, rough riding, wearisome exercise, or the wearing of an abominable (not abdominal) supporter or pessary."

Medicated injections should be avoided, for they seldom reach the diseased part, and are liable to excite an irritation or inflammation of the vagina. Injections of warm water and *Glycerine*, or of soap and water, should be frequently used, for the purpose of cleanliness, and to detach and carry away the irritating secretions of the uterus.

Remedies must be given for the coincident derangements of menstruation, digestion, circulation, and the nervous system, as well as for the local inflammation and secretion.

For menstrual anomalies: *Belladonna*, *Actæa*, *Cal. carb.*, *Cocculus*, *Crocus*, *Helonias*, *Lilium tig.*, *Graphites*, *Pulsatilla*, *Sabina*, *Secale*, *Senecio*, *Trillium*, may be selected, according to the indications.

For derangements of digestion such remedies as *Arsenicum*, *Lycopodium*, *Apis*, *Carbo veg.*, *Nux vomica*, *Pulsatilla*, and *Sulphur* will be applicable.

For nervous disorders, *Moschus*, *Nux moschata*, *Ignatia*, *Actæa*, *Platina*, *Cypripedium*, and *Coffea* are indicated.

The remedies for the local inflammation and leucorrhœa are: *Alumina*, *Aralia racemosa*, *Arsenicum*, *Belladonna*, *Borax*, *Bovista*, *Calc. carb.*, *Cannabis sat.*, *Cinchona*, *Cubebæ*, *Ferrum*, *Graphites*, *Helonias*, *Hydrastis*, *Kali bi.*, *Kreosote*, *Phytolacca*, *Pulsatilla*, *Sepia*, *Trillium*, *Xanthoxylum*.

The special indications for each remedy will be given in the article on leucorrhœa.

CHAPTER VI.

DERANGEMENTS OF MENSTRUATION.

MENORRHAGIA AND METRORRHAGIA—CAUSATION AND TREATMENT.
 AMENORRHŒA, VARIETIES OF—CAUSATION AND TREATMENT.
 DYSMENORRHŒA—CAUSATION—TREATMENT.

MENORRHAGIA AND METRORRHAGIA.

(*Synonym*, PROFUSE MENSTRUATION AND UTERINE HEMORRHAGE.)

MENORRHAGIA implies increased, and frequently an excessive, flow of blood at the menstrual period. Metrorrhagia signifies an escape of blood from the uterus at other times than the normal periods.

Menorrhagia may be slight or excessive. The quantity discharged may be only slightly in excess of the normal flow, or it may be so profuse and continued as to seriously weaken the patient, produce profound anæmia, great feebleness, and a general impairment of health. The flow may be steady, and last the ordinary number of days, or may continue for one or two weeks. Generally the discharge is subject to remissions, there being alternate copious flow, followed by periods of scanty discharge.

Causes.—The causes of menorrhagia are chronic disease, as tuberculosis, Bright's disease, or disease of the spleen; local affections, as uterine tumors, flexions, excessive congestion of the ovary and uterus at the monthly period, cancer of the uterus, chronic inversion of the uterus, fungous condition of the mucous lining of the uterus, etc.

The causes of metrorrhagia are cancer, polypi, congestion of the uterus or ovaries, fungoid degeneration of the mucous lining of the uterus, and the retention in the uterus of any portion of a product of conception.

Treatment.—The first indication in the treatment of menorrhagia is absolute rest during the menstrual period,

and the avoidance of all kinds of excitement. A vaginal douche of hot water is often serviceable; cold compresses of wet cloths applied to the hypogastrium or ice bags to the spine will often aid in arresting the hemorrhage. If in spite of these measures, and the administration of suitable remedies, the flow is not arrested, a vaginal plug should be used. Two or three yards of wetted bandage, inserted through a speculum, makes an efficient tampon. Small sponges inserted in the vagina (the first one being pressed closely against the os uteri), and retained in place by a compress of cloth and a T bandage, will often effectually arrest the flow. A sponge tent is useful in some cases.

The remedies are: *Belladonna*, *Calc. carb.*, *Cannabis indica*, *Cocculus*, *Crocus*, *Erigeron*, *Erechthites*, *Ipecac*, *Platina*, *Secale*, *Trillium*, *Viburnum*, and *Ustilago*.

BELLADONNA is indicated in profuse discharge of bright red blood, with congestion of the ovaries and uterus.

CALC. CARB. is indicated in profuse menstruation occurring in girls of scrofulous diathesis, and of anæmic appearance. The symptoms are: menses too early, too long, and too profuse; discharge pale and watery.

CANNABIS INDICA.—Very profuse menstruation, with an increased sexual desire. To be given in low dilutions.

COCCULUS.—Menstruation too early and too profuse, accompanied by distension of the abdomen, and pain in the hypogastrium; *flow worse when rising* to the feet, gushing out like a stream.

CROCUS.—*Profuse discharge of dark, clotted*, stringy blood; *flow increased* on the *slightest* movement.

ERIGERON.—Very profuse flow of bright red blood, with irritation of rectum and bladder. It is more particularly indicated in metrorrhagia after confinement or miscarriage, although it has done me excellent service in many cases of profuse menstruation.

ERECHTHITES has proved efficacious in clinical cases, but I am not aware of any provings showing its relation to uterine hemorrhage.

IPECAC is indicated in very profuse menstruation. The discharge is bright red and clotted, attended with nausea; pale face; heavy, oppressed breathing.

PLATINA.—Menses too early and profuse, but not of long duration; flow dark and clotted, preceded by bearing-down pains; menorrhagia attended by nymphomania.

SECALE.—Passive hemorrhage, profuse and long lasting,

with tearing and cutting colic; cold extremities; cold sweat; great weakness; weak and thready pulse. Secale is indicated in menorrhagia caused by uterine tumors or polypi.

TRILLIUM.—Menorrhagia from displaced uterus; profuse flow; gushing of bright blood from the least movement; profuse menstruation after prolonged exertion. Towards the close of menstruation the blood is pale and watery. Menorrhagia during the climacteric.

USTILAGO.—Tumefied cervix, with prolonged oozing of dark blood with small coagula.

VIBURNUM PRUNIFOLIUM is highly recommended by Dr. Eaton. He states that it proves a most efficient remedy given every half hour in the first dec. dilution.

AMENORRHŒA.

Under the term amenorrhœa are included several abnormal conditions.

First. Delay in the establishment of the functions of menstruation. Usually the menses appear prior to the age of sixteen years, but in some cases the discharge does not appear until some years later in life.

Secondly. When, from some obstruction, the menstrual secretion is pent up and cannot find an outlet. The obstruction may be from an imperforate hymen; from atresia of the vagina, or an occluded os uteri. These last cases are characterized by the presence of pains in the uterine region, particularly at the catamenial period, by a bulging out of the hymen and distension of the vagina (if due to imperforate hymen), and enlargement of the uterus.

Another variety of amenorrhœa consists in an imperfectly established menstruation. The discharge is scanty and occurs at irregular intervals; or may appear in small quantity for a period or two and then be absent for several months.

The causes in these cases are rapid growth with imperfect nutrition, anæmia, continued over-exertion, etc.

Amenorrhœa occurs during pregnancy, in persons of excessive corpulence, in tuberculosis, and in acute wasting diseases.

Temporary amenorrhœa may occur in consequence of some profound emotion, as great fear or grief. A writer has called attention to amenorrhœa from psychical influences, which may occur when girls or women, under certain circumstances, have reason to stand in the utmost dread of pregnancy. While

they are waiting with anxiety for the usual appearance of the menstrual hemorrhage, it actually fails to show itself in consequence of this mental condition.

Another variety of amenorrhœa, and which is more properly suppression of the menses, arises from taking cold, exposure to wet, standing on a damp floor, sudden check of perspiration when heated, just before the menstrual period or after the flow has begun.

Lastly. Amenorrhœa may proceed from want of development of the ovaries and uterus; from chronic hypertrophy or fibrous tumor of the uterus; and from cystic, and other diseases of the ovary.

Treatment.—It is important to ascertain the cause of amenorrhœa in determining what measures to adopt to relieve the patient.

If there is no constitutional disturbance, no headache, or feeling of fullness in the head, nor disturbance of the system, it is best to do nothing. Schröder observes: "The hemorrhage from the uterine mucous membrane is only a process which accompanies ovulation, and which is not in itself necessary. If there is no ovulation it is unreasonable to try to bring on the hemorrhage; while if ovulation goes on regularly without hemorrhage it is no disadvantage."

Amenorrhœa and retention from an imperforate condition of the hymen, or vagina, or cervix uteri, are cured by operations. In these cases the aperture should at first be made very small, so as to allow of a gradual escape of the retained menstrual secretion.

Amenorrhœa from absence or imperfect development of the uterus and ovaries is rarely susceptible of cure.

If the disease is due to displacement of the uterus it will be necessary to replace the organ in its proper position in order to relieve the amenorrhœa.

The services of the physician are more frequently required in amenorrhœa from suppression. If there be congestion or inflammation of the mucous lining it should be removed by appropriate treatment.

The remedies for amenorrhœa are: *Pulsatilla*, *Actæa*, *Graphites*, *Aconite*, *Calc. carb.*, *Sepia*, *Belladonna*.

PULSATILLA.—Suppressed menstruation from getting the feet wet; chlorosis, with scanty flow and of short duration; amenorrhœa from nervous debility; suppressed menstruation with throbbing headache, pressure in stomach, nausea; pains in uterus. *Pulsatilla* is also indicated in delayed menstrua-

tion in lymphatic girls, of timid, tearful disposition, subject to cold hands and feet.

ACTÆA is indicated in suppression from a cold or mental emotions, attended with aching pains in the back and limbs, severe headache, sharp pains in the hypogastric region.

GRAPHITES.—*Scanty menstruation*, which is too pale and soon ceases; hysterical cephalalgia; pains in the chest; debility; sterility; copious leucorrhœa before and after menstruation; œdematous swelling of feet and legs.

ACONITE.—Suppressed menstruation from fright, with congestion to the head and palpitation of the heart.

CALCAREA CARB.—Scanty or absent menstruation from anæmia and debility, or in scrofulous girls; suppression from exposure to wet, with anasarca.

SENECIO GRACILIS.—Suppression with sleeplessness; nervous irritability; loss of appetite; lassitude and debility; wandering pains in back and shoulders.

SEPIA.—Sepia is particularly indicated at the approach of the menopause; scanty, irregular menstruation; *sudden flushes of heat in the head and upper half of the body*, with cold hands and feet; headache and nausea.

In suppression from exposure to cold and wet, warm hip baths are beneficial. They should be taken just before going to bed.

In delayed menstruation from imperfect nutrition, or from anæmia, the general health should be improved by appropriate hygienic and remedial treatment. Nutritious diet, moderate exercise in the open air, and abundant sleep, are of great importance in restoring functional activity.

VICARIOUS MENSTRUATION.

This anomaly usually occurs in connection with absent or scanty menstruation, and consists in periodical hemorrhages from other parts of the body, such as the mucous membrane of the nose, the lungs, the stomach, the intestines, or from ulcers or wounds.

The remedies are: *Hamamelis, Belladonna, Ipecac, Bryonia, Lachesis, Millefolium*.

HAMAMELIS—Hemorrhage from rectum.

BELLADONNA—Hæmatemesis.

IPECAC—Hemorrhage from the lungs.

BRYONIA—Periodical nose-bleed.

LACHESIS—Nose-bleed.

MILLEFOLIUM—Hæmoptysis.

DYSMENORRHŒA.*(Synonym, PAINFUL AND DIFFICULT MENSTRUATION.)*

Dysmenorrhœa means pain and discomfort in the back, loins, uterus, and ovaries at the time of the menstrual flow. The menstrual discharge is also abnormal in quantity and appearance, being either scanty, profuse, delayed or interrupted. The pain varies in intensity, being in some cases slight, in others almost agonizing in its severity, and between these two extremes all imaginable gradations are observed.

The pains of dysmenorrhœa have very marked characteristics of their own. They occur as colicky pains, and hence are called uterine colic. They assume a bearing-down character, resembling in this respect the pains of parturition. They begin in the back and extend to the sides and thighs, and are subject to periodical exacerbations.

Causation.—Difficulty in expelling the contents of the uterus has been generally assigned as the cause of the pains. The contents are menstrual fluid, coagula, and cast off mucous membrane. The pain is relieved when the uterus succeeds in expelling these foreign bodies. When the difficulty arises from the presence of mucous shreds in considerable quantities it constitutes a special form of the affection, called membranous dysmenorrhœa.

The causes of obstruction to the escape of the uterine contents are: flexions, which produce constriction, and consequent narrowing of the uterine canal at or near the internal os uteri; congenital narrowness of the internal or external os; the presence of tumors in the canal, or some morbid condition of the ovaries.

MEMBRANOUS DYSMENORRHŒA.

Membranous dysmenorrhœa is a form of the disease in which a distinct membranous cast of the uterine cavity is expelled. Engelman calls it "the menstrual discharge of the superficial part of the uterine mucous membrane in a more or less coherent form." According to him, the glands of the uterus become increased in length and width during the menstrual period, and the subjacent tissue swollen from the proliferation of round cells. In the normal process of menstruation the upper layers of proliferated mucous membrane are exfoliated and occasion the menstrual discharge.

Membranous dysmenorrhœa is an enhancement of this pro-

cess. There is increased proliferation and more extensive exfoliation. The membrane thrown off cannot pass through the cervix except by the act of uterine contractions. The symptoms are not characteristic but resemble those of simple dysmenorrhœa. The membrane is usually expelled on the second or third day, after which the pain entirely subsides.

Treatment.—Rest during the *period* in the horizontal position is advisable. If flexion is present the patient should lie on the back if the case be one of ante flexion; on the face, if there is retro flexion. Hip baths, warm fomentations, and vaginal injection of water as warm as can be borne, are useful adjuvants in the treatment.

The treatment is medicinal and surgical, and is largely determined by the cause of the disorder.

If flexions of the uterus are the cause of the dysmenorrhœa, by preventing the escape of the menstrual secretion, they must be removed and the uterus restored to its normal axis before relief can be obtained.

If there is stricture, or narrowness of the cervix, either at the os internum or externum, dilatation of the canal is necessary, which may be done with sounds, bougies, sea tangle, slippery-elm, and sponge tents; and dilators such as Atlee's, Priestly's, Nott's, or Molesworth's. Should dilatation fail to permanently relieve, recourse may be had to incision of the cervix. For minute directions for these various operations I refer the reader to special works on gynæcology, such as Ludlam's, Eaton's, and Thomas's.

Operations are especially called for in obstructive dysmenorrhœa. But when the disease is caused by irritation, congestion, or an inflammatory condition of the cervix or adjacent tissues, it is amenable to appropriate medication.

The remedies which are more particularly adapted to these forms of dysmenorrhœa are *Belladonna*, *Actæa*, *Viburnum opulus*, *Gelseminum*, *Lilium tig.*

BELLADONNA.—Dysmenorrhœa from uterine congestion; irritation, of the cervix; or from general plethora. The special indications are: severe bearing-down pain in the uterus; lumbar pains; cutting pains in the vagina and cervix; headache; spasmodic twitchings of muscles. All the symptoms relieved after the flow commences. Belladonna is more particularly adapted to those cases in which the more violent symptoms *precede* the flow and are *relieved* when the *discharge commences*.

ACTÆA.—Labor-like pains in the uterus; bearing down in

the uterine region; pain in the loins; sharp pains across the abdomen, causing the patient to bend double; scanty flow, slightly coagulated; rheumatic dysmenorrhœa. I have often used *Belladonna* and *Actæa* in alternation with speedy alleviation of the distress.

VIBURNUM OPULUS.—This remedy has proved very beneficial in spasmodic dysmenorrhœa. According to Lilienthal it is indicated in the following condition: Excruciating, colicky pains through the uterus and lower part of the abdomen, coming on suddenly just previous to the menstrual flow; especially indicated in the dysmenorrhœa of hysterical subjects.

GELSEMINUM.—Has been used with good results in some cases of dysmenorrhœa, especially when caused by spasm of the cervix. The tincture is more efficient than the dilutions. Fifteen or twenty drops may be put in four ounces of water and a teaspoonful given every fifteen minutes until the pain is relieved.

LILIUM TIG.—Bearing-down pain in uterus; cutting pain in the bowels; menses scanty, flow only when moving about; bearing down with sensation of heavy weight and pressure in uterine region; sharp pains in the uterus.

Other remedies occasionally indicated are *Caulophyllum*, *Collinsonia*, *Phytolacca*, *Pulsatilla*, *Senecio*, *Sepia*, *Veratrum viride*.

For membranous dysmenorrhœa the principal remedies are *Borax*, *Bromine*, *Bryonia*, *Cantharis*, *Mercurius Pro. iod.*, *Ustilago*.

CHAPTER VII.

LEUCORRHŒA, PELVIC CELLULITIS, OVARIAL-
GIA, AND OVARITIS.

LEUCORRHŒA—CAUSATION—TREATMENT. PELVIC CELLULITIS AND AB-
CESS—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.
OVARIALGIA — CAUSATION — TREATMENT. OVARITIS—PATHOLOGY—
CAUSATION—SYMPTOMS—TREATMENT. COCCYODYNIA—SYMPTOMS—
TREATMENT. MASTITIS, MAMMARY ABSCESS. EXCORIATIONS AND FIS-
SURES OF THE NIPPLES.

LEUCORRHŒA.

(*Synonym, FLUOR ALBUS, THE WHITES.*)

THERE is probably no complaint to which woman is sub-
ject so common as leucorrhœa. It is rare that any female
reaches middle life without its occurrence at some period.
Unless the discharge is excessive and long continued the pa-
tient seldom applies for medical assistance, but endures the
evil as best she can.

Leucorrhœa, like catarrhal affections in other parts of the
body, indicates a precedent condition of inflammation of
greater or less intensity, which inflammation may be seated
in the mucous membrane of the vagina or uterus and Fal-
lopian tubes. Consequently, whatever irritates the mucous
membrane of these parts causes an increased amount of its
normal secretion, together with a rapid proliferation and
exfoliation of epithelial cells and a rapid formation of pus
corpuscles.

There are two varieties of leucorrhœa: namely, vaginal
and uterine; the one proceeding from the mucous membrane
of the vagina, and the other from that of the uterus. Either
of these may exist alone, or the two varieties may affect the
same individual. The vagina is more liable to be implicated
in uterine leucorrhœa, than the uterus from vaginal disease.

Vaginal leucorrhœa is a white, creamy, purulent looking
fluid, having an acid reaction. Uterine leucorrhœa is viscid,
tenacious, stringy, and has an alkaline reaction. When pro-

ceeding from the body of the uterus it is sometimes tinged with blood.

In many cases the discharge shows the intermingled character of the two varieties of leucorrhœa—the patient being affected with both.

Leucorrhœa arises from local and constitutional causes. Of the former are: flexions, congestions, prolapsus, sub involution, fibroids, polypi of the uterus, endometritis, and vaginitis, simple and specific. The constitutional causes are: anæmia, prolonged lactation, and debility from whatever source.

Treatment.—The primary object in the treatment of leucorrhœa should be to remove the cause. A careful analysis of the symptoms and character of the discharge should be made, and if any uncertainty regarding the cause exists it will be necessary to make a physical examination. Many cases arise from morbid conditions, which can be removed by appropriate treatment or by a restoration of the uterus to its normal position.

Local treatment.—Injections, except for the purpose of cleanliness, are seldom of any benefit. If there is an ulcerated os, injections of *Calendula* and *Glycerine*, or a weak solution of *Hydrastin*, may be employed with benefit to the patient.

General treatment.—General treatment is applicable in many cases, and if there be no special local irritating condition in existence such general treatment alone may prove successful. This is particularly the case when leucorrhœa is induced by general debility, anæmia, prolonged lactation, etc. Careful hygienic treatment, fresh air, moderate but regular exercise, abundance of easily digested and nutritious food, warm baths, frictions of the skin, change of air, attention to the digestive functions and the state of the bowels, are all of great service, and may prove all that is needed to effect a cure.

Special treatment.—The list of remedies here given include those adapted to the treatment of both vaginal and uterine leucorrhœa. The remedies most frequently indicated are: *Bovista*, *Calc. carb.*, *Cinchona*, *Hydrastis*, *Pulsatilla*, and *Sepia*. Remedies less frequently indicated, but curative in many cases, are: *Aconite*, *Alumina*, *Arsenicum*, *Borax*, *Conium*, *Cannabis*, *Caulophyllum*, *Ferrum*, *Graphites*, *Hellonias*, *Kreosote*, *Lilium tigrinum*, *Lycopodium*, *Silicia*, *Sulphur*, *Trillium*, *Xanthoxylum*.

BOVISTA.—*Acrid corrosive* leucorrhœa, of a *yellowish green* color; discharge of thick, tenacious leucorrhœa while walking; leucorrhœa following menstruation, lasting from six to eight days.

CALC. CARB.—This remedy is especially indicated for leucorrhœa of debilitated and cachectic women, in whom menstruation is too *early* and *profuse*. Special indications are: the discharge is either milky, starchy, transparent, or albuminous, not acrid or excoriating, but is accompanied by itching of the vulva. The patient suffers from *lassitude*, *debility*, weakness and pain in the back, cold hands and feet.

CINCHONA.—Cinchona is indicated when the complaint arises from excessive loss of blood; debility following continued fevers, or other diseases; innutrition; excessive sexual indulgence; and anæmia. The special indications are: leucorrhœa taking the place of the menstrual flow; purulent, fetid discharge.

HYDRASTIS CAN.—Leucorrhœa, attended with ulcerations of the cervix and vagina; the discharge is tenacious, thick, ropy, and yellow; profuse leucorrhœa with pruritus of the vulva; leucorrhœa with great debility and violent palpitation of the heart; profuse albuminous leucorrhœa after menstruation. Hydrastis may be beneficially given in injection, especially when the leucorrhœa is complicated with ulcers and excoriations of the cervix.

PULSATILLA.—Pulsatilla is indicated in simple catarrh of the vagina, uncomplicated with uterine lesions. It is indicated in thick, white, creamy discharge; starchy leucorrhœa, bland and unirritating; leucorrhœa of mild leuco-phlegmatic females; leucorrhœa accompanying pregnancy.

SEPIA.—*Thin, yellow*, acrid, purulent leucorrhœa; corrosive leucorrhœa, with stitches in the uterus and great itching of the labia. Sepia is suitable for females who are naturally delicate and sensitive, with clear and transparent complexions.

ACONITE.—Copious and viscid leucorrhœa, in patients who complain of a sensation of heat, with fullness and tension in generative organs; slight tingling sensation in the vagina.

ALUMINA.—Acrid, corrosive leucorrhœa; gelatinous, viscid discharge, profuse only through the day; profuse leucorrhœa after menstruation, lasting seven or eight days, then disappearing.

ARSENICUM.—Chronic leucorrhœa of women after the climacteric; thin, whitish, offensive leucorrhœa taking the place

of the menses. Suitable for women who are constantly chilly and easily fatigued.

BORAX.—Leucorrhœa like the white of an egg, with sensation as if warm water were flowing down; leucorrhœa midway between the menstrual periods.

CONIUM.—Thick, milky leucorrhœa, with constant labor-like colic; discharge of thick, acrid mucus, causing burning, griping in the abdomen preceding the leucorrhœal flow; leucorrhœa with *induration* of the *cervix*; prolapsus uteri with *induration* of the *cervix*; leucorrhœa with stinging pains in the cervix.

CANNABIS.—Leucorrhœa from specific vaginitis; discharge of thick, greenish, purulent mucus, with burning and cutting pains while urinating.

CAULOPHYLLUM.—Leucorrhœa following uterine congestion, discharge mucous and profuse; brown spots on face, called "moth spots"; leucorrhœa of little girls.

FERRUM.—Leucorrhœa of anæmic women. The discharge is unirritating, starch-like, or thin, watery and acrid; sallow face; palpitation of the heart; debility.

GRAPHITES.—Leucorrhœa coming in sudden gushes; profuse, whitish leucorrhœa coming on in the morning on rising, with weakness in the back when walking or sitting; leucorrhœa before and after the menses, which are *scanty* and of *short duration*.

HELONIAS.—Leucorrhœa with atony and anæmia; profuse menstruation, followed by watery leucorrhœa with uterine and ovarian pains.

KREOSOTE.—Kreosote is especially indicated in acrid, offensive leucorrhœa, which stains the linen yellow, and stiffens like starch; itching and burning of the labia; swelling of the labia; ulcerative pain in the cervix; dilatation and eversion of the os uteri; leucorrhœa worse between the menstrual periods; very offensive discharge continuing long after parturition.

LILIUM.—Dysmenorrhœa and ovarialgia, followed by profuse, yellowish, excoriating leucorrhœa.

LYCOPodium.—Milky leucorrhœa, coming in occasional gushes, preceded by sharp, cutting pains in the hypogastric region.

SILICIA.—Purulent, profuse, acrid leucorrhœa; discharge preceded by cutting pains around the umbilicus.

SULPHUR.—Offensive, corrosive, ichorous leucorrhœa, attended with burning and smarting, making the parts sore;

leucorrhœa of yellow mucus, preceded by pains in the abdomen.

TRILLIUM.—Profuse, exhausting leucorrhœa, with *atony*, *exhaustion* and chronic congestion of the cervix; fetid discharges from uterine and vaginal.

XANTHOXYLUM.—Profuse leucorrhœa at the time when the menstrual discharge should appear.

PELVIC CELLULITIS AND PELVIC ABSCESS.

(*Synonym*, PERI-UTERINE CELLULITIS, PARAMETRITIS.)

Pelvic cellulitis is inflammation of the connective or cellular tissue surrounding the uterus and its appendages, which tissue exists in abundance between the various organs situated in the pelvis.

The pathological results are in order of occurrence: Congestion and effusion of serum; exudation of coagulable lymph, and, unless the disease is sooner arrested, the formation of pus, and consequent abscess in the connective tissue.

Symptoms.—The disease may be divided into three stages; namely, congestion, exudation, and suppuration; and it may be either acute or chronic. The acute form generally begins with a well-marked chill, followed by fever, quick pulse, increased temperature, and flushing of the face. The pulse often rises to 110 and the temperature to 103 or 104 degrees. Sharp pain in the hypogastric or iliac regions is usually present. The urine is high colored and scanty, and micturition is painful. If effusion or exudation takes place there is a sense of fullness and tension about the uterus, which is increased by defecation, urination, or walking. Pains are often felt in the lower extremities, sometimes in the knee joint, at other times in the course of the larger nerves or in the dorsum of the foot. These pains are caused by pressure of the effused matter upon the muscles and nerves in the iliac fossa. Edema of the leg is sometimes observed, in consequence of pressure upon the large veins. If the disease advances to the third stage, or that of suppuration, there will be an exacerbation of the symptoms. The pain becomes shooting and lancinating; there is chill and fever towards evening, assuming an intermittent type; a sensation of throbbing in the pelvis, and the general expression of hectic, characteristic of the formation of pus.

The second and third stages of pelvic cellulitis are indicated by physical signs. When effusion takes place, indurations

occur in the cellular tissue of the region affected, and careful digital examination will usually detect an indurated sensitive tumor, varying in size from a hickory nut to a small orange, in one of the broad ligaments or around the cervix. If the tumor is large the uterus may be pushed from its normal position in a direction opposite to the tumor. If coagulable lymph has been poured out as a result of the inflammatory action, and adhesions have been formed, the uterus may have become fixed in its abnormal position by fibrous bands, and remain in a permanent condition of anteversion, retroversion or latero-version, or more rarely, of antelexion or retroflexion.

When suppuration has occurred the tumor usually loses its hard, resisting outline, and begins to soften. The softening may occur gradually, or develop itself more rapidly. It may be recognized by either abdominal or vaginal examination. But in many cases the large amount of surrounding exudation so entirely masks the evidence afforded by the softening and fluctuation caused by suppuration, that it may not be detected until long after it occurs. Not infrequently the pus escapes through the rectum or vagina before evidence of its formation is observable.

Evacuation of the contents of a pelvic abscess may take place through the abdominal walls, by the rectum, vagina, bladder, urethra, and uterus. The most frequent outlets are the abdominal walls, vagina, and rectum.

In the chronic form of the disease the symptoms differ only in intensity from those of the acute. Occurring after delivery or abortion they are apt to be misinterpreted, and to lead the physician and patient to attribute the feelings of pain and discomfort to some other cause. In many cases of pelvic cellulitis the patient may be able to attend to some of her ordinary occupations without much pain, but there is deep-seated uneasiness in the pelvis, combined with frequent and painful urination. The pain and discomfort are aggravated by exertion and by walking.

Course and termination.—Pelvic cellulitis usually runs a course of two or three weeks, and in the majority of cases terminates by resolution. When suppuration occurs the accumulation of pus may spontaneously escape. It may be evacuated by an incision and the abscess speedily dry up and disappear; or the sac may become lined by pyogenic membrane and continue to discharge pus for an indefinite time. In some cases multiple abscesses form, extending through the whole iliac fossa, and discharging their contents one after another.

Causation.—Parturition, or abortion, is, according to Dr. West, the cause in seventy-seven out of every one hundred cases. Dr. Thomas thinks even this large proportion falls short of the truth, and holds that cellulitis is rarely met with except after the parturient process. Other causes are: direct injury from the use of instruments, caustics and pessaries; from forcible and too frequent coition, and from blows; inflammation of the uterus and ovaries; sudden suppression of menstruation, and intra-uterine injections.

Diagnosis.—Cellulitis may be confounded with fibrous tumors, hematocele, and pelvic peritonitis. Fibrous tumors are painless, free from tenderness, and movable. The premonitory symptoms attending tumors caused by cellulitis are wanting; namely, chill, fever, and other signs of inflammation. Hematocele is distinguished by its sudden formation, softness in the beginning, by its occurrence near or at the time of menstruation, and by the symptoms of anæmia attending the escape of the blood constituting the tumor. Peritonitis is characterized by excessive tenderness, and absence of induration or tumor, on the most careful examination.

Prognosis.—The prognosis is generally favorable. There is more danger attending cases occurring just after parturition, on account of the liability to general peritonitis. A guarded opinion should be given in regard to the duration of the disease, on account of the liability to suppuration and various complications. A large proportion of cases terminate by resolution in two or three weeks time.

If exudation is extensive, or if an abscess of considerable size should form, recovery will be more tardy, and the patient continue in feeble health and with impaired powers of locomotion for a considerable period. A fatal result may follow extensive and long-continued suppuration, or from the abscess discharging into the peritoneal cavity, setting up fatal peritonitis.

Treatment.—The remedies are: *Aconite*, *Arnica*, *Veratrum viride*, *Bryonia*, *Belladonna*, *Apis*, *Cantharis*, *Hepar sulphur*, *Phosphorus*, and *Silicia*.

ACONITE is indicated in the stage of congestion. The symptoms are: chill, followed by fever; rapid pulse; heightened temperature; sharp pains; tenderness; dysuria. The remedy may be given every half hour until relief is obtained.

ARNICA is indicated if the disease is the result of injury from improper use of instruments; protracted labor, or from violence. It may be used in alternation with *Aconite* if the

attack is sudden and violent, and attended with well-marked signs of acute inflammation.

VERATRUM VIRIDE.—Prof. Ludlum speaks in high praise of the efficacy of *Veratrum viride* in pelvic cellulitis in the congestive stage. He considers it especially adapted to cases occurring after parturition. He says: "For many years I have been in the habit of prescribing it whenever in a lying-in woman the first symptoms of pelvic or peritoneal congestion show themselves; and when my directions have been faithfully followed the result has been most happy. I have seldom failed to set aside a threatened cellulitis by its use. My custom has been to give it in the second or third decimal dilution. In an urgent case the dose should be repeated every twenty minutes or half an hour, for four or five times successively, and afterwards less frequently."

I can bear witness to the efficacy of *Veratrum viride* in this disease. In cases occurring after parturition, with severe chill, followed by high fever, throbbing carotids, full pulse, suppression of lochia and milk, it is a most valuable remedy.

BRYONIA is indicated in the stages of exudation and effusion. The symptoms are hard, tender swelling in the cellular tissue of the broad ligament, or around the cervix; pain in the pelvis, worse on motion; dragging sensation in the uterus; constipation; some fever and increase of temperature.

BELLADONNA—If at the outset the fever and temperature are not high, and nervous symptoms predominate. The special symptoms indicating its administration are: suppression of the lochial discharge; tympanites; headache; slight delirium; tenderness of the abdomen to pressure; dryness and heat of the vagina; bearing-down pains. It is more particularly indicated if the disease is complicated with pelvic peritonitis.

APIS is a valuable remedy if the effusion into the cellular tissue is excessive. It is useful in alternation with *Aconite* and *Bryonia*.

CANTHARIS may be given if there is much vesical irritation, with frequent desire to urinate, and burning pains in the urethra.

HEPAR SULPHUR is indicated if there is danger of the disease passing into the stage of suppuration. The symptoms are: softening of tumor; throbbing sensation in the hypogastrium; increase of the pain and tenderness, especially upon standing or walking, or extending to the lower extremities if the patient is confined to her bed; hectic flushes on the cheeks; tendency to perspiration at night; accelerated pulse.

PHOSPHORUS is indicated if *Hepar* fails to arrest the tendency to suppuration. I have used the remedy with decided benefit in several instances.

SILICIA should be given if an abscess has formed. It is particularly indicated if the abscess continues to discharge copiously for some time after being opened, attended with hectic fever, exhausting night sweats and great debility.

Other remedies, as *Hyoscyamus*, *Merc. sol.*, *Calcareo carb.*, *Cinchona*, etc., are occasionally indicated.

If suppuration is unavoidable, and fluctuation is distinctly recognized, it is advisable to evacuate the contents of the abscess. That no mistake in diagnosis may be made I advise that exploration be made with an aspirating needle. If pus is found an incision should be made at once.

The strength of the patient should be sustained by nutritious and easily digested food.

OVARIALGIA.

(*Synonym*, NEURALGIA OF THE OVARY.)

The ovaries are well supplied with nerves, and, like many other parts of the body, are subject to neuralgic disease. The symptoms of ovariangia are: sudden, acute, circumscribed pain in one or both ovaries. The attack usually occurs without warning or an apparent cause. The pain is described as sudden, stabbing, and excruciating. It is often accompanied by fainting, vomiting, and hysterical paroxysms, or convulsions. The pain, unlike most forms of neuralgia, is increased by pressure upon the affected part.

When ovariangia occurs in connection with dysmenorrhœa the pain is sickening in character and is very distressing and depressive. It is apt to precede the menstrual flow by a few hours, and disappears when the flow commences, especially if it is free.

Causation.—The chief predisposing cause is neuralgic diathesis. The exciting cause are: dysmenorrhœa, pregnancy, menstrual irregularities, hysteria, sexual excess, ungratified sexual desire, emotional excitement, etc.

Ovariangia can be distinguished from ovaritis by the absence of chill and fever, and by the suddenness of the attack. The duration of the attack is much shorter and the pain sharper, more lancinating and more circumscribed.

The prognosis is generally favorable.

Treatment.—Hot, dry applications are useful. A plate

heated and applied to the seat of the pain is a convenient method of applying warmth. A lotion composed of one part tincture of the root of *Aconite*, two parts *Chloroform*, and four parts *Alcohol* is an excellent topical application.

The remedies are: *Aconite*, *Actæa*, *Belladonna*, *Colocynth*, *Ignatia*, *Lilium*, *Naja*, and *Valerianate of Zinc*.

BELLADONNA is indicated in ovarialgia with stitching pains in right ovary—the pain comes and goes suddenly; burning pain in the ovarian region; ovarialgia at the menstrual period, when accompanied by downward pressing of the uterus.

COLOCYNTH is indicated for intense boring or tensive pain in the ovary, causing the patient to bend double; stitching pain in the ovary.

IGNATIA.—In ovarialgia occurring in females of intense acuteness of nerves of sensation, and when the affection has been caused by grief or other intense emotion.

LILIUM.—Sharp pains in the ovarian region; stinging, darting, cutting pains in the left ovary; ovarialgia from dysmenorrhœa; *ovarialgia* in *pregnant* women.

NAJA.—Violent, crampy pain in the region of the left ovary. Dr. Ludlam cites an instance of a severe case of ovarian congestive neuralgia, accompanied by violent palpitation of the heart when the pain in the ovary came on, cured by *naja*. Both symptoms disappeared on the administration of the remedy.

VALERIANATE OF ZINC.—Clinical experience has demonstrated the efficiency of this remedy in hysterical ovarialgia, and in ovarialgia occurring before menstruation. If taken two or three days before the expected appearance of the menses it will frequently avert a paroxysm. It may be administered in the third decimal trit.

ACTÆA is beneficial in ovarialgia occurring in rheumatic subjects.

OVARITIS.

(*Synonym*, OOPHORITIS, INFLAMMATION OF THE OVARIES.)

Inflammation of the ovary occurring idiopathically is a rare affection, but as a complication of cellulitis, or pelvic peritonitis, it is by no means infrequent. Three varieties of the disease have been mentioned by gynæcologists; namely, ovarian peritonitis, inflammation of the Graafian vesicles, and inflammation of the parenchyma. The symptoms of each resemble each other so nearly that only by a post mor-

tem examination can the pathological condition be determined.

Pathology.—Madame Boivin describes the various stages of the disease as follows:

First stage—Congestion, with increase of weight and roundity. *Second stage*—The organ double, triple, or quadruple its normal size; tissue soft and infiltrated with yellow and violet colored serum, with slight effusion of blood. *Third stage*—Suppuration; pus infiltrated or collected in spots. *Fourth stage*—Gray softening, disorganization; the gland becoming diffuent.

Scanzoni describes an inflamed ovary in a patient who had died of pneumonia. He says: "The autopsy showed in the pelvis to the right of the uterus a mass of coagulated fibrin, of the size of the fist, easily separated from the adjacent organs, and evidently the result of an effusion. Having removed this we came upon the ovary, considerably enlarged. Its surface was of a violet, blueish color; the consistency of the organ was soft, in some parts almost fluctuating. On cutting into it there escaped a considerable quantity of blood, and the surface of the section presented a violet color, and some greatly distended veins. At one part of the surface there was a recently ruptured vesicle, having a reddish-black color. The vesicle was about the size of a pea, and retained in its center a small quantity of black, liquid blood, while its sides were coated with a tolerably thick lining of fibrin. Two neighboring vesicles being opened, were found to contain a fluid composed of blood and serum. In another part of the ovary an abscess was discovered in the parenchyma itself, about the size of a bean, and filled with pus and blood. Other smaller ones were found, whose size varied from that of a millet seed to that of a small pea. The entire tissue was infiltrated with serum."

Causation.—Its causes are: exposure to cold at the menstrual period; extension of inflammation from adjacent organs; injudicious use of pessaries; intra-uterine injections; gonorrhœa; and excessive sexual intercourse.

Symptoms.—The symptoms are similar to those of pelvic cellulitis and peritonitis. There is severe pain in the region of the affected ovary; great tenderness on pressure; and some tympanitic swelling. Examination by the vagina or rectum shows the ovary to be somewhat enlarged and exceedingly tender. There is usually chilliness or rigors, followed by fever.

Owing to frequent complications with affections of other pelvic tissues a positive diagnosis is generally impossible.

The prognosis is favorable. The disease may, however, run a protracted course. Its terminations are by resolution and suppuration.

Treatment.—The patient should be kept in the utmost quiet. Hot fomentations to the abdomen at the affected part are of great assistance in relieving the pain.

The remedies are: *Aconite*, *Belladonna*, *Colocynth*, *Conium*, *Lachesis*, *Hepar sulphur*, *Hamamelis*, *Mercurius*.

ACONITE is indicated if the attack is ushered in by chills and high fever; acute pain in the region of the ovary, with tenderness on pressure. The medicine should be given once an hour until the pain and fever abates.

BELLADONNA is particularly indicated if there is reason to think that the peritoneal investment is the seat of the inflammatory action. The symptoms are; circumscribed, stabbing, lancinating pain, with fever, thirst, headache; great tenderness over the region of the affected ovary; bearing-down and pressive pains in the uterus.

COLOCYNTH.—Cramp-like pain in the left ovary, as though it was squeezed in a vice; colicky abdominal pains; *ovaritis* as the *consequence* of *abortion*, with suppression of the lochia.

LACHESIS is indicated in inflammation of left ovary, with scanty, irregular menstruation, and occurring at the climacteric. It is also a valuable remedy in abscess of the left ovary.

HEPAR SULPHUR is indicated if the symptoms point to the formation of an abscess, and its timely administration may arrest its development.

MERCURIUS is indicated if the bowels are implicated in the attack. The symptoms are: diarrhoea, with tenesmus; distension of the abdomen; perspiration without relief; nightly aggravation of the pain.

HAMAMELIS.—Prof. Ludlam, in his *Diseases of Women*, says of this remedy: "The remarkable effects of this remedy locally and internally in orchitis led me to infer that it would also be useful in some forms of ovaritis. I have prescribed it in numerous cases, with remarkable results. It seems appropriate to the sub-acute attacks of this disease, which are incident to pregnancy and menstruation. In the former case I have no question of its power, in some instances, to prevent abortion, where such a mishap threatens in consequence

of ovarian irritation and inflammation. In the latter it allays the pain and arrests the menstrual derangement which is so liable to follow. It is also useful in gonorrhœal ovariitis, in which variety the suffering is sometimes extreme." He recommends for internal use the second or third decimal dilution. The external use of *hamamelis* in the proportion of one part to three parts of water is also recommended. It may be applied by means of cloths wet with the mixture and applied to the seat of pain.

CONIUM is useful in induration of the ovaries.

COCCYODYNIA.

The coccyx is formed of four small segments of bone, which may be regarded as rudimentary vertebræ. None of the segments have any spinal canal or intervertebral foramina. The first and largest segment articulates with the sacrum; the other three generally constitute a single bone. The coccyx, or the tendinous expansions of the muscles and the fibrous tissue of the ligaments, is now and then the seat of a severe pain of a neuralgic character, called coccydynia. The causes of coccydynia are blows, or falls upon this part of the body; prolonged horseback riding; pressure of the fetal head during protracted parturition, etc.; exposure to cold and damp by sitting too long on the wet ground; operations upon the rectum; or whatever may set up inflammation of fibrous tissues may excite the disease.

The symptoms are: pain on walking, sitting down on or rising from a chair, and defecation. Whatever puts the muscles or ligaments on the stretch causes severe pain. Tenderness on pressure is marked, and often causes severe pain. There is also pain during coition, and sometimes during the menstrual period. The general health is apt to suffer on account of the constant pain. The patient becomes irritable and depressed, and suffers from loss of appetite and general malaise. Many suffering from coccydynia can only sit on one thigh, and rise from or sit down in a chair with extreme deliberation, to avoid any strain upon the affected parts.

Treatment.—Dr. Simpson recommends severing the attachment of all the coccygeal muscles, which may be performed subcutaneously by an ordinary tenotomy knife. This is passed under the skin at the lowest point of the coccyx, turned flat and carried up between the skin and cellular tis-

sue until its point reaches the sacro-coccygeal articulation; then it is turned so that in withdrawing it an incision may be made which entirely severs the muscular attachments. The knife is then introduced on the other side and made to repeat the section there.

The disengagement of the coccyx from the surrounding muscular attachments thus effected is usually at once attended with complete relief to the pain. But the relief is not always permanent; either from osseous disease, or from the tissue again becoming adherent, the pain returns. A second operation for the complaint is the removal of the whole or the last two segments of the bone. The operation may be performed by making an incision about two inches long over the bone, and then, having fairly exposed this structure, to sever the soft attachments all around it, dividing it between its segments, with the bone forceps, tie what vessels are bleeding, and close the wound with one or two sutures. It is only in intractable cases that such operations are advisable. Judicious and persistent medication will, in the majority of cases, prove curative.

The remedies indicated in coccyodynia are: *Belladonna*, *Causticum*, *Carbo animalis*, *Cicuta*, *Kali carb.*, *Lilium tig.*, *Magnesia*, *Phos.*, *Ruta*, *Tarantula*.

BELLADONNA.—Intense, crampy pain in the coccyx; can sit only a short time on account of the pain; relieved by standing or walking.

CAUSTICUM.—Dull, drawing pains in the region of the coccyx; bruised pain in the coccyx; jerking pain in the coccyx. (Allen.)

CICUTA.—Tearing, jerking in the coccyx.

CARBO ANIMALIS.—Coccyx feels bruised; burning in the coccyx when touched; pain as though from subcutaneous ulceration; worse sitting or lying.

KALI CARB.—Severe gnawing pain in the coccyx during rest and motion.

MAGNESIA CARB.—Sudden piercing in the coccyx; violent pain, as if the spine was bent back.

PHOSPHORUS.—Pain in the coccyx, as if ulcerated; pain hindering motion, followed by painful, stiff neck.

RUTA.—Pain in coccyx, as if bruised.

TARANTULA.—Repeated lancinating, shooting pains in the coccyx.

MASTITIS.

(*Synonym*, INFLAMMATION OF THE MAMMARY GLANDS.)

Inflammation of the mammæ is most frequently observed during the first weeks of lactation, though it may occur at any time prior to and at the time of weaning.

It is caused by exposure to cold; excessive secretion of milk; pressure of the dress upon the mammæ; accumulation of milk in the gland, on account of the reluctance of the mother to allow the infant to nurse while suffering from cracked or excoriated nipples; inflammation, and consequent closure of some of the milk ducts, etc.

Symptoms.—The breast swells, becomes hard, painful, and exceedingly tender and sensitive to pressure; there is often slight chills, fever, acceleration of pulse, headache, aching pains in the loins and extremities. Unless the inflammation is soon subdued an abscess is liable to form in the cellular tissue, and sometimes attains a very large size. Suppuration may be expected if resolution does not occur in four or five days. The symptoms indicating suppuration are: dark red or violet color of the skin, with a pouting out of some spot on the surface of the breast; a feeling of fluctuation; throbbing, and painful tension of the affected part.

Treatment.—Applications of warm water are beneficial in the beginning of the attack. I have also used *Belladonna* lotions with most gratifying results. An ounce of fluid extract of *Belladonna* to a pint of water is about the proper proportion. A cloth may be saturated with this and kept constantly applied to the inflamed breast. If in spite of this and the use of the indicated remedies, the complaint goes on to suppuration, poultices of flaxseed should be used to hasten the suppurative process.

The remedies are: *Aconite*, *Belladonna*, *Hepar sulphur*, *Phosphorus*, *Arsenicum*, and *Silicia*.

ACONITE—If the inflammation is violent and rapid, with chill, followed by fever; full, rapid pulse, dry heat, and severe pain in the breast.

BELLADONNA is, however, more generally indicated, and should be given from the outset, or as soon as *Aconite* has subdued the more violent symptoms.

PHOSPHORUS.—If suppuration is threatened, I have found no remedy so efficacious as *Phosphorus*. It not only frequently averts suppuration, but after it has occurred promotes speedy recovery.

HEPAR SULPHUR is also indicated in threatened suppuration.

SILICIA is indicated if the discharge of pus continues for a long time, or if it becomes thin or sanious.

ARSENICUM has proved an efficient remedy in chronic cases of mammary abscess, particularly if there is much enlargement and induration, and if fistulous openings and sinuses have become established. I effected a cure with this remedy in a case of long standing, and after amputation of the breast had been decided on by a council of physicians. The breast was enormously enlarged, was indurated and honey-combed with sinuses and openings, of which there were sixteen.

If suppuration has taken place it is advisable to make an early and free incision in the most dependent portion of the abscess.

EXCORIATED AND CRACKED NIPPLES.

No affection is so dreaded by a woman, or causes more suffering, than excoriated or fissured nipples. The affection may occur prior to parturition, but usually it appears soon after the first attempts at suckling.

The causes are: predisposition from some depraved condition of the system; a delicate and sensitive skin; want of care of the nipples after nursing; too great vigor on the part of the infant in the act of nursing, and an aphthous condition of the child's mouth.

The first symptom is a burning or scalding sensation in the nipple when the child takes hold of it. The pain may at first be slight, or the nipple, and even the whole breast, may be the seat of acute, lancinating pain. If a fissure is present the suffering is very acute, and requires all the mother's fortitude to endure. I have frequently seen the act of nursing elicit tears and cries of pain.

The excoriations of the nipple are caused by a denudation of its epithelial covering. They are superficial or deep, according to the want of care and treatment, or the length of time the complaint has lasted. The fissures are commonly found at the base of the nipple, extending in long, narrow lines around it. They are deep-seated, bleed easily, and are very intractable to treatment. They are very tender, sensitive to contact with cold air, and are exquisitely painful at every attempt to nurse. Occasionally, in addition to the excoriations and fissures, there is present an herpetic eruption, aggravating the condition of the patient.

One of the most serious consequences liable to result from a diseased state of the nipples is inflammation and abscess of the breast. On account of the agony endured during the act of nursing the mother delays it as long as possible. Accumulation of milk and distension of the breast take place, and at length congestion, inflammation, and suppuration follow.

Treatment.—Preventive treatment, and particularly when a predisposition to the affection exists, should be adopted. For a month or two prior to confinement the nipples should be daily washed with a weak solution of *Tannin*, *Arnica*, *Myrrh*, or *Green tea*. A mild solution of *Tannin* has proved efficacious in many instances. Care should be taken to prevent irritation from pressure of the clothing.

When the first symptoms of excoriation appear I have found a lotion made of equal parts of *Tinc. calendula* and *Glycerine* of great value. The nipples should be carefully washed and dried after nursing, washed with the lotion, and soon after anointed with pure *Cosmoline*, *Mutton tallow*, or *Spermaceti ointment*. If prompt relief does not follow I add *Tinc. hydrastis* to the mixture of *Calendula* and *Glycerine* in the proportion of one teaspoonful of the tincture to an ounce each of *Calendula* and *Glycerine*.

For fissures I apply *Graphites cerate* after nursing, carefully filling the fissures with it. Before applying the cerate the nipples should be cleansed and dried.

These simple means will promptly cure a large majority of cases.

If the pain is excessive I recommend the use of the nipple shield. Patience will, in many cases, be required to teach the child its use, but tact and hunger will eventually succeed. Many kinds of shields are in use, but I do not know that any one has special advantages over another. That one is best which best answers the purpose. If the mother is of scrofulous diathesis, constitutional remedies may be administered. *Calc. carb.*, *Sulphur*, *Graphites*, *Sepia*, and *Rhus tox.*, are especially indicated.

CHAPTER VIII.

DISEASES OF THE ORGANS OF REPRODUCTION
OF THE MALE.

BALANITIS—CAUSATION—TREATMENT. ORCHITIS—SYMPTOMS—CAUSATION—TREATMENT. SPERMATORRHOEA—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. PROSTATITIS—SYMPTOMS—CAUSATION—TREATMENT.

BALANITIS.

(*Synonym*, SPURIOUS OR PREPUTIAL GONORRHOEA.)

BALANITIS is a disease arising from want of cleanliness, friction, or from connexion with females affected with acrid, corrosive leucorrhœa. It is also one of the complications of gonorrhœa. It consists of a profuse secretion of mucus between the glans penis, and the prepuce.

The symptoms are, in addition to the discharge already mentioned, more or less pain and itching; abrasions and excoriations of the inflamed tissue; and tumefaction of the prepuce. The discharge is generally fetid, from an admixture of the secretion of the sebaceous glands with the mucous discharge.

Treatment.—Thorough cleanliness and a dose of *Mercurius sol.* once in four hours. If the prepuce cannot be retracted the parts may be cleansed by the use of a syringe.

ORCHITIS.

(*Synonym*, INFLAMMATION OF THE TESTES.)

Orchitis may be acute, subacute, or chronic. It is idiopathic, or traumatic; or it may be caused by some specific poison, as that of gonorrhœa or syphilis; or it may arise by metastasis, as in mumps.

The most frequent causes of orchitis, apart from the action of specific poisons, are exposure to wet and cold, blows, wounds, and metastasis from mumps.

Symptoms.—The symptoms are swelling and hardness of the affected testes, which are exquisitely tender and painful. The pain extends upwards along the spermatic cord of the affected side. The slightest pressure upon the organ produces a peculiar sickening feeling, and vomiting not infrequently occurs. The inflammation is attended with more or less fever, acceleration of pulse, and aching pains in the limbs and back. Effusion of serum and exudation of plastic lymph takes place in the vaginal tunic.

Chronic orchitis may arise spontaneously, or succeed an acute attack. The exciting causes are: stricture of the urethra; chronic cystitis; enlarged prostate gland, or gonorrhœa.

The disease is characterized by swelling and induration, which, beginning in the epididymis, extends to the testis, which enlarges to four or five times its normal size. The enlargement is slow and gradual, and is usually unattended by pain.

Treatment.—The remedies for acute orchitis are: *Belladonna*, *Pulsatilla*, *Clematis*, *Cannabis*, *Arnica*, *Aconite*, *Thuja*, and *Conium*.

PULSATILLA is indicated when orchitis is a complication of mumps.

CLEMATIS and CANNABIS SAT.—For orchitis caused by suppressed gonorrhœa, or when it arises from an extension of the inflammation of the urethra to the epididymis and testes.

ARNICA is indicated if the disease is caused by an injury.

ACONITE—If it arises from exposure to cold.

CONIUM is indicated if there is much induration.

If the swelling does not subside in three or four days, or after the more violent inflammatory symptoms have passed away, the scrotum may be compressed with a series of strips of adhesive plaster, about half an inch wide. The compression is to promote the absorption of the serum and lymph poured out in the vaginal tunic.

The principal remedies for chronic orchitis are: *Conium*, *Graphites*, *Agnus castus*, *Argentum*, *Lycopodium* and *Sulphur*.

SPERMATORRHŒA.

Spermatorrhœa may be defined as a morbid and exhaustingly frequent involuntary discharge of seminal fluid.

Occasional discharges of semen may take place once in two or three weeks without any detriment to health, particu-

larly if they are not followed by a feeling of debility or prostration. The fact, therefore, of the occasional escape of the seminal fluid during sleep is not to be considered a positive disease, unless the losses are decidedly frequent and are attended by signs of mental and physical exhaustion.

Most usually the involuntary discharges of semen occur during sleep, especially in the first period of the disorder; subsequently they may take place in the day time, during the acts of defecation and micturition; while riding; or indulging in erotic thoughts; or while reading some lascivious book.

Lallemand asserts that in some cases diurnal pollutions occur habitually without a sensation more marked than an imperceptible ejaculation. It is undoubtedly true that in aggravated cases semen may escape during sleep, or during defecation and micturition, without any sensation, but such cases are rare.

But there is good reason to suppose that in many cases considered to be spermatorrhœa, a gleet, or a discharge from Cowper's glands or the prostate, has been mistaken for an escape of seminal fluid.

Many patients are unnecessarily alarmed at such discharges, which may be fitly called imaginary spermatorrhœa, and the alarm is increased if they have been misled by popular ideas on the subject, or by the perusal of advertisements and books which flood the country.

The most frequent cause of spermatorrhœa is self-abuse, especially if the habit has been contracted prior to the age of puberty. In healthy boys, although the functions of the organs of reproduction are latent and quiescent, yet they may be stimulated into a premature development; and when the secretion has been repeatedly encouraged it not only weakens the organs by undue stimulation, but also contributes to the continued formation of the fluid; so that even if the habit of self-abuse is discontinued, yet repeated seminal emissions take place involuntarily. It is true that seminal emissions occur where the habit of self-abuse has not been practiced, but this is usually of no great moment. It is but the overflow of a superabundant secretion, and is also occasionally due to some irritable condition of the ducts, or seminal vesicles. Other causes are venereal excesses and spinal disease, as locomotor ataxia.

Lallemand also assigns as causes: gout or rheumatism of the genital organs, constipation, hemorrhoids, fissures of the

anus, ascarides, chronic inflammation of the urethra and neck of the bladder, enlarged prostate, etc.

The consequences of continued spermatorrhœa are: general weakness, nervous irritability, mental depression, a tendency to constantly dwell upon the subject and exaggerate the evil, fear of impotency, and a dread of going to sleep. The countenance is generally sallow, with a dark space under the eyes, the pulse is weak and accelerated; digestion becomes impaired, and the patient is troubled with flatulence and constipation; there is dullness of sight and hearing, loss of memory, inability to concentrate the thoughts, palpitation, giddiness, shortness of breath, headache and neuralgia. In extreme cases, impotence, insanity, or epilepsy may be the result. Melancholy of an aggravated degree sometimes follows the morbid dwelling upon the affection, and suicide sometimes ends a life which has become unendurable.

Diagnosis.—The statement of the patient is generally sufficient to establish the diagnosis. But in doubtful cases, and when there is reason to believe that the patient is unduly alarmed concerning his condition, a microscopic examination should be made. A gleet, or a discharge of the secretion of Cowper's glands, or of the prostate, is frequently mistaken for a seminal emission. Spermatozoa found upon the linen or in the urine will alone prove conclusively that the urethral discharge contains seminal fluid. Prostatic fluid rarely escapes, save during the act of defecation, and is unattended by any orgasm. The secretion of the prostate resembles the white of egg, while the seminal fluid has a starchy appearance and a characteristic odor.

Prognosis.—As the disease nearly always has its origin in the habit of self-abuse, the correction of the habit is generally followed by relief. The prognosis is therefore favorable except in those cases which are dependent upon spinal disease.

Encouragement to the patient is advisable on account of the depression of spirits with which he is so liable to be affected.

Treatment.—If self-abuse is the cause of the disease its practice must be abandoned. Certain hygienic precautions are essential. Early rising is to be advised, because the last two or three hours of sleep is the time when emissions are most apt to take place. Bathing the genital organs in cold water before going to bed, sleeping on a hard mattress, eating light, unstimulating suppers, avoidance of all rich, indigest-

ible food, and the use of coffee, tobacco, and alcoholic beverages, are measures of the highest importance. Dwelling on erotic subjects, reading lascivious literature, and the sight of pictures which excite amorous fancies, should be avoided. In short, active occupation, which busies the body and mind, temperance in eating and drinking, and an avoidance of all causes which excite sexual feelings, are the best correctives of the habit. A tepid salt water bath every morning is advisable. Sometimes a suspensory bandage is beneficial.

The remedies especially indicated are: *Gelsemium*, *Conium*, *Phos. acid.*, *Phos.*, and *Agnus castus*.

Lilienthal gives twenty-five remedies for the complaint.

I use *Gelsemium* most frequently, and with better results than any other remedy.

CHINA is indicated if there is impotence and great weakness and feeling of prostration after loss of seminal fluid.

CONIUM—If the complaint arises from excessive sexual indulgence, and especially if there is a discharge of semen at stool. It is also a very valuable remedy in prostatorrhœa.

It is almost impossible to give the particular symptoms for each remedy, or the remedy for each case of disease. The temperament, habits, and idiosyncrasies of each patient, taken in conjunction with the particular form or features of the complaint, will guide to the selection of the remedy.

There may be desire or the lack of it, impotence or excessive indulgence; an emission may occur nightly, or at long intervals; the patient's mind and will may or may not be affected.

PROSTATITIS.

(*Synonym*, INFLAMMATION OF THE PROSTATE GLAND.)

Inflammation of the prostate gland may occur primarily from injuries, exposure to cold, or long continued pressure, as after riding in a hard saddle; or secondarily, from extension of the inflammation in gonorrhœa, cystitis, etc.

The symptoms are: burning, cutting, throbbing pain in the perineum, extending into the thighs; pain in the urethra and end of the penis; feeling of pressure and fullness in the rectum; painful defecation and micturition; ribbon-shaped feces. In severe cases there is almost complete retention of urine, which is voided painfully drop by drop. There is generally great sensitiveness to touch in the perineal region. Examination per rectum reveals the gland swollen, hot, and extremely tender to the touch.

The disease generally ends by resolution, though occasionally suppuration occurs. The abscess may discharge into the urethra, bladder, rectum, or through the perineum. When suppuration occurs there is an increased severity of all the symptoms. The pain is exceedingly severe, and is attended with chills, alternated with flushes of fever. Defecation and micturition are almost impossible, and in some cases there is complete retention of urine.

Treatment.—Application of cloths, wrung out of hot water is beneficial.

The remedies are: *Aconite*, *Arnica*, *Belladonna*, *Mercurius*, *Hepar sulphur*, and *Silicia*.

ACONITE—If there is much fever, or if the inflammation results from exposure.

ARNICA—If caused by injuries.

BELLADONNA.—Severe, burning pain, tenesmus, constant desire to urinate.

MERCURIUS—If suppuration is threatened.

SILICIA—In case an abscess has formed.

If suppuration occurs it is important to recognize the fact early, and as soon as possible evacuate the pus. If the abscess points toward the perineum its advent is always preceded by marked swelling, redness, and an œdematous condition of the tissues. An incision should be made in the most prominent part of the swelling with a narrow, straight bistoury, care being taken to avoid the rectum and bladder. If it points in the rectum an incision may be made with a curved trocar.

CHAPTER IX.

VENEREAL DISEASES—CHANCRE, SYPHILIS, AND GONORRHOEA.

CHANCRE—DIAGNOSIS—PROGNOSIS—TREATMENT—LOCAL TREATMENT—
TREATMENT OF BUBO. SYPHILIS—CAUSATION—DIAGNOSIS—SEC-
ONDARY SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT. GONOR-
RHŒA—GONORRHOEA IN THE MALE—SYMPTOMS—CAUSATION—DIAG-
NOSIS—PROGNOSIS—COMPLICATIONS. GONORRHOEA IN THE FEMALE—
CAUSATION—DIAGNOSIS—PROGNOSIS. TREATMENT OF GONORRHOEA
IN THE MALE. TREATMENT OF GONORRHOEA IN THE FEMALE. GLEET.

THE venereal diseases are three in number; namely, chancre, syphilis, and gonorrhœa. At one time it was held that all three were excited by a common virus, but this opinion has been abandoned since the time of Bell and Ricord. But while at present there is no difference of opinion that syphilis and gonorrhœa are distinct diseases, and that each owes its origin to a special cause, there are widely divergent beliefs regarding chancre and constitutional syphilis. Writers on syphilis have divided themselves into two schools; namely, dualists, who hold that chancre and syphilis are excited each by a distinct virus; and the unicists, who assign a common origin to both chancre and syphilis. The former class regard chancre as a local disorder, limited in its duration, readily amenable to treatment, and producing no constitutional effects; while syphilis is held to be a strictly constitutional disease, wide reaching in its action, affecting in turn nearly every structure of the body, persistent in its duration, and destructive in its effects. The latter class, or unicists, regard the local and constitutional symptoms as effects of the same virus manifesting its power in different ways and on different tissues, designating the varieties under which the disease appears, as:

1st. Primary syphilis, embracing the non-indurated chancre, or chancroid, the indurated, or Hunterian chancre, and bubo.

2d. Secondary syphilis, in which the cutaneous and mucous tissues are affected in various ways; and

3d. Tertiary syphilis, in which the deeper and more important structures are involved.

The latest writers on venereal diseases are, in general, disposed to consider the local and constitutional disorders as separate affections, and as such this article will consider them.

CHANCRE.

The soft, non-indurated, non-infecting ulcer, now regarded under the head of chancre, and distinct from the infectious, indurated ulcer of syphilis, is produced by inoculation upon an abraded surface; or, as some believe, by the contact of the virus with the delicate mucous membrane of the genital organs. There is no fixed period of incubation. It begins its work of irritation at once, but the time of the appearance of the sore varies in different individuals. In from two to five days from the time of incubation the symptoms show themselves. It is usually discovered as a small, well-defined, spreading ulcer, of a circular form, and frequently looking as if the healthy tissue had been punched out.

There are three varieties. In one the sore penetrates through the skin or mucous membrane; is somewhat irregular in form, with sharply-defined edges; the base is soft, spongy, and covered with thick pus. Another variety is shallow, or prominent, with spongy granulations upon its surface. The third variety is formed when the ulcer extends below the skin and mucous membranes and involves the connective tissue, and is attended by acute inflammation and rapid destruction of the surrounding parts.

The leading characteristics of the soft chancre are: short period of incubation, softness of the base, sharply-defined edges, irritating and profuse discharge of pus, and liability to spread. Occasionally we meet with chancres attended with violent inflammation, rapid sloughing and phagedena. The sloughing ulcer occurs in persons of impoverished, debilitated constitutions. Sometimes considerable destruction of tissue results, with the loss of the prepuce in males, or labia and nymphæ in females.

The phagedenic sore is first a small, irritable and ragged ulcer, secreting unhealthy pus, with a tendency to spread irregularly. When it extends from several points, in the form of portions of circles, it is known as the serpiginous chancre.

Chancre appears in males most frequently in the furrow behind the glans penis; in females in the fourchette and opening of the vagina. Several often appear simultaneously, from

three to eight being occasionally observed. Others are liable to form in consequence of inoculation from the virus poured out by the first sore.

The virus of chancre may be communicated in various ways; by sexual connection, which is by far the most frequent; by the use of water closets (Dr. Gilhon, in his paper on the Prevention of Venereal Disease by Legislation, says: "The disease is communicated by creatures credited with souls, but lower than brutes, who, with diabolical design, place their diseased secretions where they will come in contact with any or everybody, enemy or friend—a well authenticated case of which I got from a former surgeon of the U. S. marine hospital at Chicago, where a number of patients, among lake hands, were known to have smeared the virus of their sores on water-closet seats, door knobs, window-sills, catches, bolts, and other articles constantly handled"); by linen, towels, pipes, and other articles; by surgical instruments and dressings (a case is on record of inoculation by a bistoury used seven months previously in opening a bubo), and by the fingers of the individual affected. Physicians have contracted chancre on the finger after making examinations of females affected with the disease.

Diagnosis.—It is sometimes difficult to diagnose the disease, especially in its earlier stages. It may be confounded with herpes, eczema, fissures, and abrasions. Herpes appears in groups of small vessels resting upon an inflamed base, and usually yields readily to treatment. Eczema consists of vessels more minute than those of herpes, with red, swollen base, and is attended with considerable local irritation and itching. Careful examination, the appearance of the eruption on other parts of the body, and the history of the case, serve to exclude chancre. Abrasions and excoriations need more careful discrimination. They are more superficial, extend in area, but not in depth; the discharge is ichorous, and they are surrounded by an inflammatory border, which is seldom the case in chancre. With proper attention to cleanliness they speedily disappear.

Chancre is distinguished from the infectious sore by its speedy appearance after inoculation, the activity of the ulceration, the tendency to multiply, the appearance of the ulcer, the absence of hardness of base, and the liability to subsequent inoculations.

Prognosis.—The prognosis is usually favorable, the chancre healing in from one to six weeks under appropriate treat-

ment. The sloughing and phagedenic varieties are more intractable, sometimes lasting for months.

Bubo is an enlargement of one or more of the lymphatic glands of the groin. It may proceed from other causes than the absorption of the virus of a chancre; it may be occasioned by gonorrhœa, excessive venery, or by scrofula. Chancre is only occasionally followed by bubo. Specific bubo is of two varieties; one, a simple lymphatic abscess from irritation; the other, the virulent bubo, which may be caused either by accidental contamination of the open abscess with matter from the sore, or by absorption from the sore itself, and transmission of the virus along the ducts of the lymphatic gland. The gland suppurates, and the pus thus formed, possesses the same characters as that in the original ulcer. An open bubo is nothing but a large chancre, possessing the same powers of inoculation. The specific bubo is generally on the same side as the chancre. Both sexes are liable to it. The male, however, suffers much more frequently than the female. The bubo generally arises about fourteen days after the appearance of the chancre, sometimes occurring as early as the eighth, and again not until the expiration of four or five weeks. Suppuration is usually preceded by rigors, fever, headache, and throbbing pain in the seat of the swelling, if the inflammatory process is of an active character. In the more indolent cases the constitutional symptoms are not so marked.

When a bubo has once opened, either spontaneously or by the intervention of the surgeon, it takes the name of an open or ulcerated bubo, in which state it may speedily heal or remain an open sore for an indefinite period. It may assume a phagedenic, sloughing, or gangrenous appearance, and prove a most formidable enemy to encounter.

Bubo from direct irritation of venereal matter, without the antecedence of a chancre, has been supposed possible, and has been called the primary non-consecutive bubo. It is called by the French a *Bubon d'emblee*. Its existence is denied by many writers. Gross asserts that no case of the kind has fallen under his observation.

Treatment.—The treatment of chancre is hygienic, local and general. Severe exercise, stimulating diet, intoxicating drinks, and coffee and tobacco must be abstained from. Rest promotes the healing of the chancre and diminishes the risk of bubo. The diet should be light, especially at supper.

Local treatment.—The sore, or sores, should be well cleansed twice a day. If situated under the foreskin, which

cannot be retracted, it may be cleansed by the use of a syringe. After being washed and carefully dried they should be sprinkled with powdered *Iodoform* and covered with a piece of lint. If the sore is situated on the dorsum of the penis a piece of oiled silk may be used to retain the lint in place. In women, strips of lint may be placed between the labia or in the mucous folds of the vagina. Many surgeons recommend touching the sores, when newly formed, with some caustic application, such as the dilute *Acid nitrate of Mercury*, or fuming *Nitric acid*, thus converting the chancre into a simple ulcer, which will speedily heal. The caustic may be applied by means of a splinter of pine with a rounded tip. The sore should be washed immediately after the application, in order to prevent too extensive destruction of tissue. In my own experience the application of the *Acid nitrate* has been repeatedly followed by a speedy cure.

If the foreskin becomes inflamed, producing phimosis, cold water dressing, and frequent syringing between the glans and prepuce, are necessary. In severe cases it will be necessary to make slight incisions in the foreskin, to allow the pent up matter to escape and to relieve constriction.

Paraphimosis is a more dangerous accident than phimosis. The prepuce slips behind the glans, and unless speedy relief is obtained much pain and swelling follow, and gangrene and sloughing may occur from the constriction. If the constriction cannot be relieved by bringing the foreskin forward it should be done by an incision through the constricted portion. If the paraphimosis has not existed long it can generally be relieved by seizing the penis behind the constriction between the fore and middle finger of both hands and then compressing the swollen glans with the thumbs until it is small enough to slip through the tight foreskin. If the chancre sloughs, or become phagedenic, Dr. Berkley Hall advises that the patient be immersed in a warm hip bath (98 deg. Fah.) for eight or nine hours daily, care being taken that the affected part be thoroughly immersed. During the night, *Iodoform* or other dressing should be applied. This treatment is to be continued until the sore assumes a healthy appearance.

The remedies for chancre are the various preparations of *Mercury*, *Arsenicum*, *Nitric acid*, *Thuja*.

MERCURIUS SOL. is indicated in chancre, simple or multiple, when there is no tendency to spread, or to become phagedenic, or sloughing.

MERCURIUS CORROSIVUS is indicated in phagedenic chancre.

MERCURIUS PRO IODIDE.—For chancre with inflamed inguinal glands.

MERCURIUS BIN. IOD. is adapted to indolent and slow healing chancres, accompanied by indolent, slowly suppurating bubo.

ARSENICUM is indicated in sloughing chancres, attended with great constitutional irritation, prostration, restlessness, and burning pain in the part affected.

MERC. CINNABAR is indicated in chancres attended with exuberant granulations; indolent bubos.

THUJA.—When the chancre is accompanied with condylomata on the labia, and around the anus; moist condylomata, erosions of the female genital organs, with profuse mucous secretion.

Treatment of bubo.—As soon as a bubo makes its appearance the patient should quit work or exercise and maintain the recumbent position as far as possible. If the gland is swollen and very painful warm fomentations should be applied. If there is tendency to suppurate, poultices of ground *Flaxseed* should be applied to promote the formation of pus. As soon as fluctuation is perceived a small incision should be made to evacuate the pus and prevent burrowing in the cellular tissue. A small strip of lint may be inserted in the opening to prevent a too early closure of the wound. If the glandular swelling is slow in forming and of an indolent character, it may sometimes be dispersed by pressure. A thick pad of cotton or lint placed over the swelling, and kept in position by a firm bandage or strip of adhesive plaster, will afford a sufficient amount of pressure.

The remedies are: *Mercurius pro. iod.*, *Mercurius bin. iod.*, and *Arsenicum*.

I have used MERC. PRO. IOD. with most satisfactory results, the bubo in nearly every case disappearing by absorption. I give a powder of the second dec. trit. once in four hours.

Hempel recommends MERCURIUS BIN. IOD. in the first or second dec. trit. I should not advise to give a lower potency than the second.

APIS is indicated if the swelling is red, hot, and shining, accompanied by great pain and tenderness.

ARSENICUM is indicated if the bubo becomes gangrenous or phagedenic.

SYPHILIS.

Syphilis may properly be divided into three stages or groups of symptoms.

First. Those developed at the point of contagion, embracing the indurated ulcer and its accompanying enlargement of lymphatic glands—primary syphilis.

Secondly. A great diversity of cutaneous and mucous affections, appearing in from six to eight weeks after the outbreak of the primary symptoms, constituting secondary syphilis.

Thirdly. Affections of special organs and the deeper seated structures of the body—named tertiary syphilis.

These groups of symptoms are usually, but not always, separated by pauses. The morbid products of the disease are identical under all these forms.

The initial lesion, or primary syphilis, is caused by inoculation with a specific virus. This virus coming in contact with an abraded surface is absorbed. A certain time elapses between the absorption of the virus and its development into activity, which is the period of incubation. This varies from fifteen to forty-five days; the average period is about twenty-four days. It then reveals its presence at the point of inoculation, by induration of tissue and the formation of an elevated papule, which may or may not become an ulcer, with a hard base—the indurated or Hunterian chancre. Some twelve days later several glands in the groin are found to have become slowly and painlessly enlarged.

The indurated ulcer is usually rounded or somewhat oval, and from the diameter of a split pea to that of a silver five cent piece. When fully developed it has a hard, resisting base, feeling under the touch like a button of fibro cartilage, or a split pea imbedded in the tissues; the surface is covered with a scanty, adhesive discharge, of a grayish, dirty color; the edges are sloping from within outwards, and rounded; the induration often extends beyond the border. The induration appears about the fifth day from the formation of the ulcer, and attains its maximum by the tenth or twelfth.

The syphilitic ulcer is generally solitary. If the patient be inoculated with matter from a non-indurated sore the two varieties of ulcer may be coexistent; or if the chancreous pus be inserted into the syphilitic ulcer it will incite it to suppurate freely, and to acquire the character of a suppurating chancre. A sore of this kind is called a “mixed chancre.”

Syphilitic ulcers are met with on any part of the body, the prepuce and glans penis being the most frequent seat in the male; the labia and nymphæ in the female. Occasionally they are found in the urethra of either sex. They also occur on the neck of the uterus, the perineum, the outer surface of the labia and around the anus, and on the body and root of the penis.

One inoculation with the syphilitic virus secures exemption from subsequent attacks. This is generally true, but not absolutely so; a few contract the disease afresh after the lapse of years. In cases of a subsequent infection the disease makes its appearance in two ways. Firstly, by the recurrence of the primary, secondary, and tertiary symptoms, in the usual order. In the second mode by which the disease is repeated, its course is greatly modified; the primary symptoms do not appear, but eruptions on the skin and mucous surfaces, and lesions of the bones, liver, etc., are the first tokens of reinfection.

Enlargement of the lymphatic glands of the groin generally follows the indurated sore about twelve days after the initial lesion. The enlargement is slow, painless and persistent. Suppuration seldom occurs; when it does it is in consequence of local irritation—never dependent upon the disease alone. It is not a safeguard against general infection. When suppuration does occur the secretion resembles the corresponding initial lesion; namely, is scanty, thin and serous. Like the ulcer, it is also indolent in character, frequently manifesting no disposition to advance or recede for several months.

Causation.—Predisposing causes are those which enfeeble individuals, and thereby render them more liable to the disease, and increase its severity. It is more severe in cold than in temperate climates. The exciting cause is a specific virus capable of reproducing itself when transplanted to an appropriate surface. The vehicles for the transmission of the virus are the secretions of all syphilitic affections and the blood. The fluids of the body usually cease to be contagious after the development of the tertiary symptoms. The modes of contagion are the same as in chancre, which have already been enumerated; sexual intercourse being by far the most common.

Diagnosis.—The differential diagnosis between the syphilitic, or indurated ulcer, and the chancre, or non-indurated ulcer, will best enable the practitioner to determine the nature of each:

SYPHILIS, OR INDURATED ULCER

1st. Incubation of an average duration of 24 days. The limits are between 15 and 46 days. One distinguished writer asserts that he should regard no sore syphilitic which appears within twenty days after inoculation.

2d. Generally single.

3d. Virus not auto-inoculable; that is, fresh sores do not appear in consequence of inoculation by virus of the first ulcer.

4th. The sore is indolent.

5th. Not much tendency to spread.

6th. Hard, indurated base.

7th. Secretes scanty, thin, ichorous pus.

8th. Nearly always followed by enlargement of lymphatic glands; several in number and painless in development, and seldom resulting in abscess.

9th. Non-liability to subsequent infection.

CHANCRE, OR NON-INDURATED ULCER.

1st. Appears in from two to five days after inoculation.

2d. Generally multiple.

3d. Virus is auto-inoculable.

4th. The sore is active.

5th. Spreads rapidly, and sometimes assumes a phagedenic or sloughing type.

6th. Soft base.

7th. Secretes abundant, thick pus.

8th. Seldom followed by bubo. If enlargement of gland occurs it is single, is accompanied by severe pain, considerable swelling, and nearly always results in abscess, the matter of which is infectious.

9th. Liability to repeated infections.

Secondary symptoms, or secondary syphilis.—These terms are used to describe the series of morbid phenomena which manifest themselves after the occurrence of the primary lesions, and which occur about ten weeks after contagion, and seven after the appearance of the indurated ulcer.

The structures which are generally the first to be attacked are the cutaneous and mucous, which may be affected simultaneously or separately; the cutaneous in the last instance first feeling the power of the disease. Secondary symptoms may manifest themselves before or after the primary symptoms have disappeared. Or the ulcer may have healed and the enlargement and induration of the lymphatics remain.

Secondary syphilis is usually preceded or accompanied by well marked constitutional symptoms. Generally for some days previous to the outbreak of the eruption the patient complains of feeling unwell, of depression of spirits, lassitude, and general malaise; he is dejected in spirits, loses his appetite, has restless, unrefreshing sleep. The hair is dry and rough, the muscles and joints are sore and stiff, the bowels are constipated, and the urine is scanty and high colored. In a few days, more or less, the patient is seized with chilly sensations, or a pronounced rigor, followed by fever of greater or less intensity. The febrile action and pain may be intense, and occasionally assume an intermittent type. The fever and pain generally subside with the appearance of the eruption.

Syphilitic eruptions, or syphilides, as they are termed, assume a great diversity of forms and appearances. There are, however, several characteristics common to them all:

1st. The papule or pimple usually forms the base on which the scaly, pustular and suppurating eruptions appear.

2d. The rash may appear on any part of the surface, though it is more abundant on the forehead, cheek, back, shoulder, and on the inside of the arms and thighs. 3d. They are of a characteristic color, resembling that of copper or raw ham. 4th. Smarting and itching are generally absent. 5th. The most common situations of syphilitic eruptions are not those of the non-syphilitic. 6th. The several forms are frequently coincident. 8th. They run much into each other.

Cutaneous syphilitic affections manifest themselves under six varieties of forms; namely, exanthematous, papular, vesicular, pustular, scaly, and tubercular.

The first, or exanthematous, appears under the form of roseola. It is the first eruption to appear, generally from five to seven weeks after the initial lesion. It is not always present, and is sometimes overlooked, as it causes no discomfort. It consists of spots, rosy red, and fading under pressure when fresh, and turning to a coppery-brown before disappearing. They are of a circular shape, from the size of a dime to that of a twenty-five cent piece. The patches are slightly elevated, and usually pass off with a slight desquamation of the cuticle. They are most abundant on the sides and chest, although they sometimes cover nearly the whole body. The eruption usually lasts from two to three weeks. From other exanthems it is distinguished by the previous history of the case; the slow disappearance of the eruption, and the absence of smarting and itching.

Papular variety of syphilides.—Papular syphilides consists of small, solid elevations of the skin, which commonly begin in a hair or sebaceous follicle. These growing to a greater or less size, form the smaller or larger papule. They contain no fluid, but when they reach their full development fall off in dry scales. The color is rosy at first, changing to a coppery-brown. The papulæ attack all parts of the body, and are most frequent in the first six or eight months after contagion.

A variety of papular eruption is formed around the orifices of the body where the parts are kept moist, called mucous patches. They are of a reddish color, and secrete a thin, purulent fluid. They consist of flat, smooth, elevations, circular in form, and inclined to run together, forming larger patches. When around the anus they are divided by fissures, called rhagades. If kept clean and free from irritation, they become covered with scales. The discharge from them is very contagious.

Vesicular syphilides.—The vesicular eruption is not frequently observed. It begins with an eruption of small papulæ, upon the summit of which are formed small vesicles, filled with a transparent, serous fluid, which in a few days dries into a thin scale or scab, which, falling off, leaves the part of the characteristic coppery color. They are most numerous on the neck, chest and extremities. They are usually coincident with ulceration of the throat and periosteal pains. The vesicular syphilides appear under a variety of designations, as syphilitic eczema, herpes, varicella, and herpes phlyctenoides. In the latter two the vesicles are large, distinct from one another, and scattered irregularly over the surface. They are surrounded by slightly elevated, red areolæ, which gradually acquire a coppery tinge.

Vesicular syphilides appear in three or four months after contagion, and last one or two months; their course being marked by fresh crops of vesicles during the continuance of the eruption.

Pustular syphilides.—The pustular eruption appears somewhat later than the vesicular. The base is a papule, upon the summit of which appears the pustule. Their average size is that of a hemp seed; in some instances they are as large as a hazlenut. The base is at first a rosy red, but gradually acquires a brownish color. In the more simple cases the pus slowly dries up into a yellowish-brown crust, which finally drops off. The papule is absorbed and is replaced by a depression of a brown color, which, after a scanty desquamation, disappears. In the more severe cases, on the contrary, when the scab falls off, it leaves deep, circular ulcers, with a pale, grayish bottom, and a hard, purple, well-defined margin, which, when healed, leaves a well-marked, livid cicatrix.

The varieties of the syphilitic pustule are: syphilitic acne, impetigo, and ecthyma. The two latter belong to tertiary rather than to secondary syphilis.

Scaly, or squamous syphilides.—This is one of the earlier and more common variety of cutaneous syphilitic eruptions. It appears in about ten weeks after the primary manifestations; is always remarkably chronic, frequently lasting for months together. It is of three kinds: syphilitic psoriasis guttata, psoriasis circinata, and horny syphilide.

Psoriasis guttata is characterized by reddened elevations of the skin, covered by small, dry, thin scales, with a tawny-red areola around the scale-covered space. The scales finally

drop off, leaving the surface of a coppery color. The inner side of the limbs is the favorite locality of this variety.

Psoriasis circinata begins in the same manner as the first variety, but as the eruption extends it subsides at the center so as to form rings. These rings are of a tawny-red color, covered with dingy-white scales, and are about three-fourths of an inch in diameter. At length the scales disappear, leaving a tawny-brown stain. This variety occurs on the face, neck and extremities.

The horny syphilide is only seen on the palms of the hands and soles of the feet. It appears first as rounded, slightly elevated, reddish patches, the size of a split pea, increasing gradually in diameter to the size of a dime. The epidermis covering them gradually becomes thickened, hard, dry, and yellow, resembling horn, surrounded by a reddish areola. It sometimes attains to an extraordinary thickness, covering completely the posterior portion of the sole. After a time it separates in patches, and the desquamating patches are succeeded by yellowish-brown stains, which slowly disappear.

Tubercular syphilides.—Tubercular syphilides are a manifestation of tertiary syphilis, and is one of the later developments of the disease. It may not appear for several years after the primary symptoms, but is always persistent and intractable.

Tubercular syphilis is of two kinds: the first rarely leading to ulceration; in the second, ulceration is almost invariably produced. The first appears in the form of small, rounded, solid, reddened elevations of the skin, and subcutaneous cellular tissue. Sometimes they are arranged in small circular or elliptical rings, or small irregular groups; or they are scattered singly over parts of the body. The nodules gradually acquire a coppery color. They usually terminate in resolution, the surface becoming scaly and their prominence gradually diminishing, leaving at last a depressed cicatrix, which retains for some time a brownish color. This variety appears most commonly on the face.

The second variety, or ulcerating tubercles, are larger, varying in size from a dime to a quarter of a dollar. At first they are hard and firm, slightly elevated above the skin, of reddish color, gradually turning to a coppery hue. After a time the tubercle, together with the skin covering it, softens, becomes thin, and finally ulcerates. A thick, dry, black crust, forms over the ulcer. If the crust is detached it reveals a deep ulcer, with perpendicular edges, covered with grayish

matter. A fetid, plastic discharge exudes, which again forms a scab, under which the ulcer extends in width and depth. These ulcers are very slow to heal; they appear in successive crops. While the tubercles which first appear are healing, others are in the ulcerative stage, and still others are just making their appearance. When the ulcers finally cicatrize the scar is first of a livid coppery color, which gradually turns to an indelible white scar. This variety of syphilide appears on the face, back, chest, and on the limbs near the joints.

Alopecia, or falling off of the hair.—During the progress of syphilis, and generally within eight or ten weeks from the outbreak of the disease, the hair of the scalp and other parts of the body manifests a tendency to fall off. The hair becomes dry and withered, and falls off usually in circular patches, the places of denudation assuming the characteristic coppery color. Several patches of baldness may appear simultaneously, or as one place gets well another may become affected. Occasionally the head becomes completely bald.

Onychia.—The nails may be affected in various ways. Atrophy of the nails with crumbling of the edges is not uncommon; or the superficial layers split off so that the nail becomes spotted and opaque where it breaks away. In other cases papules appear along the matrix, which ulcerate and destroy the nutrition of the nail.

Syphilitic affections of mucous membranes.—The lips, cheeks, palate, tonsils, tongue, and pharynx are the parts more liable to be affected, though other mucous structures are occasionally implicated. The trachea, stomach and intestines are generally exempt. Syphilis of the mucous membranes appears about the same time as the cutaneous eruptions. It occurs in various forms, as erythema, papulæ, pustules, tubercles, fissures, cracks, ulcers, etc. The ulcers which form on the fauces, tonsils, and pharynx, are sometimes small, round, sharply cut, and shallow. In other cases they are the results of gunny tumors in the sub-mucous tissue. These reach the surface, rapidly change to a grayish slough, which, falling off, leaves a deep ulcer with sharply cut edges. In some instances the ulcer, instead of penetrating deeply, travels over the surface of the palate and pharynx, in the mucous membrane. When the deep ulcers heal they leave tough, rigid scars, which impede speaking and deglutition.

Inflammation of the mucous tissue of the nose is a com-

mon event. There is redness, dryness, and itching, followed by copious secretion of mucus. Ulcers form inside, and fissures, papulæ, eruptions, and mucous patches around the nostrils. Later in the disease the periosteum and thin bones of the nose are affected, giving rise to a most offensive disease, called ozæna. In consequence of ulceration and destruction of the parts, the nose and mouth may form a common cavity, and the senses of smell and taste be lost.

Syphilis of the bones and periosteum.—The bones and periosteum are attacked by syphilis in the earlier and later stages of the disease. When they are affected prior to the period of eruption the symptoms consist chiefly of aching pains, worse at night, and shifting from place to place. The pain subsides when the eruption appears. The bones most affected are the tibia, ulna, sternum, and frontal. The later affections belong to the tertiary period, seldom appearing prior to the eighteenth month. They are more liable to affect persons of scrofulous and cachectic constitution, or of intemperate habits. They are met with most frequently on the superficial bones, and appear in various forms, as nodes or soft tumors, caries and necrosis of the surface, and gummy growths.

The presence of syphilitic disease of the periosteum and bones is attended by fixed pain, worse at night; great tenderness, and by enlargement or exostosis; great suffering from irritation and compression of neighboring nerves.

Many other tissues are affected by syphilis, as the joints, muscles, lymphatic glands of the neck, tendons, blood vessels, lungs, heart, liver, spleen, brain, nerves, and organs of special sense.

Of the latter, the eye is most frequently attacked. Papular and other eruptions affect the lids and muscles; patches form on the conjunctiva. In children the cornea is the seat of interstitial inflammation. Iritis is common. It is characterized by a fixed and contracted state of the pupil; a red zone in the sclerotic coat around the iris, dullness of its color, irregularity of the margins when the iris contracts or expands. Nodules of lymph are observed at one or two points of the surface. Choroiditis and retinitis also occur, and frequently permanently impair vision.

Condylomata.—Condylomata, called also mucous tubercle, are various sized excrescences, resembling warts, which appear upon the skin. Their most common sites are around the anus and vulva, though occasionally observed elsewhere.

They vary in size from a pin's head to that of a filbert. They are usually flat with a broad base. They are generally found in clusters, which occasionally run together, forming masses of considerable bulk. They exhale a thin, purulent, exceedingly fetid fluid, when seated in parts which are habitually warm and moist.

Diagnosis.—In secondary and tertiary syphilis great caution should be exercised in making a positive diagnosis. Searching inquiry should be made into the early history of the patient. The longer the interval between the primary disease and the appearance of the secondary symptoms the greater will be the difficulty of diagnosis. The simultaneous appearance of different varieties of eruptions; the coincident affections of the mouth and throat; the absence of suffering; the characteristic coppery color; and the slow development of the eruptions, will be the chief guides in forming a correct diagnosis.

Prognosis.—The prognosis is generally favorable. A large majority of cases are curable. The average duration of the disease is about two years. In many persons syphilis ends spontaneously, though its duration may be materially shortened by appropriate medical treatment. Many cases, however, either through neglect or some cachexia, continue for an indefinite number of years, become better at variable intervals, and suffer from occasional relapses.

In concurrent syphilis the disease is usually limited to one or two localities; is not exclusively of the tertiary form, and is often limited to dry, scaly eruptions on the skin.

Scanty development of the secondary symptoms generally indicates a prolonged period of tertiary symptoms. On the contrary, a wide spread eruption at an early period indicates a short continuance of the disease.

The age and condition of the patient have much to do with the severity and duration of syphilis. The young, and the old and feeble, suffer more than the vigorous of adult age.

Treatment.—The utmost attention must be paid to cleanliness. If the sore should be inclined to spread it should be frequently washed, dried, and dressed with *Iodoform* and lint. If the glands in the groin become tender and painful warm fomentations should be applied until relief follows. Should suppuration occur they should be treated similarly to a suppurating bubo. Any strangulation or swelling of the foreskin, if not speedily relieved by cold applications and remedies, must be incised at the constricting points.

The remedies for constitutional syphilis are: *Mercurius solubilis*, *Mercurius corrosivus*, *Mercurius pro. iod.*, *Phytolacca*.

In addition to these remedies the following are indicated for the various affections of the skin, mucous membranes, bones, and other tissues of the body:

Cutaneous eruptions: *Mercurius corrosivus*, *Arsenicum*, *Aurum*, *Lycopodium*, *Sarsaparilla*, *Thuja*, and *Nitric acid*.

Mucous membranes: *Mercurius viv.*, *Arsenicum*, *Nitric acid*, *Phytolacca*, *Sanguinaria*, *Aurum*, *Kali hyd.*, and *Lachesis*.

Bones and periosteum: *Aurum*, *Mercurius sol.*, *Meze-reum*, *Phosphorus*, *Phosphoric acid*, *Calc. phos.*, *Nitric acid*, *Silicia*, *Rhus tox.*, *Sulphur*, and *Ruta*.

The mercurial preparations are the chief remedies for syphilis. If given early they promote the cure of the initial ulcer at the point of contagion, and the absorption and dispersion of the glandular swellings. They also lessen the severity of the cutaneous eruptions and the symptoms which accompany them, and either prevent or materially modify the tertiary form of the disease.

The preparations of mercury which have proved most efficient in syphilis are MERCURIUS SOL. and MERCURIUS CORROSIVUS, the latter being more particularly adapted to the scaly cutaneous eruptions.

MERC. SOL. is indicated in recent cases, and before the secondary effects manifest themselves. It may be given in doses of a grain of the third decimal trituration four times a day.

MERCURIUS CORROSIVUS is better adapted to the later forms of the disease, particularly secondary syphilis. It is indicated for ulcers with broad base, secreting a thin, adhesive pus; hard infiltration of the adjacent tissue; dry, scaly eruptions of the skin; vesicular eruption; ulceration of the mucous coat of the throat and mouth.

MERC. BIN. IOD. is indicated when the ulcer and glandular swellings are particularly indolent and slow to heal; breaking out of the cutaneous affection after once disappearing; chronic suppuration of inguinal glands; ulceration of the larynx, with loss of voice; fissures and cracks in the skin; hard papules on the skin, scattered about; pustules on the skin with inflamed base; ulcers on the skin.

PHYTOLACCA is a valuable remedy in the secondary form of syphilis; ulcers on the genital organs, as if cut with a punch, with a lardaceous base; ulceration of the throat; per-

iostitis of the long bones; syphilitic rheumatism; erythematous blotches on the skin; black-looking suppurative eruption.

The treatment of syphilitic affections of the skin, mucous membranes, bones, and other structures of the body, requires very little different treatment than the administration of the remedies already given.

Nitric acid, *Hepar sulphur*, and *Kali hyd.* are frequently called for when *Mercurius* has already been prescribed in large and frequently repeated doses.

I also append an article on the treatment of syphilis, kindly furnished me by J. G. Gilchrist, Prof. of Surgical Therapeutics in the Homœopathic Department of the Iowa State University, entitled, "The Therapeutics of Syphilis":

"There can be little question that the successful treatment of any malady can only be predicated on a correct knowledge of etiology and the natural history of the particular form of morbid action under observation. If this is true in general, more particularly is it so in the venereal diseases. Unfortunately, with some few notable exceptions, the literature of our school of therapeutics is either entirely worthless or exceedingly confusing as to the venereal contagion, and those who rely upon it entirely are liable to be led into positive error, perhaps into placing their reputation in danger. In the first place, no distinction is made between chancre and chancre, at least in speaking of treatment; the writers sometimes writing the description from a dualistic point of view, and the therapeutics from an unicistic. Admitting, as we must, that there are some able men to be found on the side of venereal unity, the fact must be patent to the unprejudiced student that the weight of testimony is altogether in favor of the doctrine of dualism. To my mind the difference between the non-infecting ulcer (chancre), and the true lesion of syphilis (chancre), is as great as between light and darkness, heat and cold, or any other directly opposite states or things. Conceding this to be a fact, this contribution has nothing to do with the so-called chancre; it is the therapeutics of syphilis with which we have to deal.

"In the very outset we are met by a question of great importance, one that has been answered very differently by different writers: Can syphilis be cured? For my own part, I answer no? We read of cases in which secondary phenomena are delayed for years; others in which the remote offspring exhibit the later manifestations of a primary lesion

that originated in the parents or grandparents. All this, it seems to me, indisputably proves that no man can positively assert the *cure* of a given case of syphilis until he has seen the subsequent offspring of the syphilitic. This would seem to be beyond dispute. Yet a recent writer treats with scorn such an assertion, and quotes his own experience to prove the contrary. The experience of one man is almost useless, unless he has trustworthy clinical history of one or two generations succeeding the initial lesion. Such data as are obtainable go to prove that nearly all the cases of constitutional, infantile, or congenital syphilis, occur in the offspring of those who have been "cured" of the primary form.

"We must concede this point, if the experience of the mass of the profession is preferred to that of individual positiveness. Yet some cases are cured, and some explanation must be sought. Unquestionably the intensity of the infection has less relation to quantity than to the bodily condition of the infected individual. Thus imperfect inoculation may result in a feeble development. Unusual bodily vigor may retard or modify the development of the morbid action. Remote syphilitic ancestry may secure more or less complete prophylaxis. On the other hand, the conditions may be reversed, and the extreme energy and virulency of the primary lesion may induce spontaneous cure by setting up intense inflammation, with corresponding elimination of the primarily infected tissues. Thus there may be, and unquestionable *are*, many conditions that favor imperfect inoculation, or even secure immunity from contagion.

"Finally, an important fact must be borne in mind in estimating the value of therapeutic measures. The general characteristic, the prevailing and controlling feature, is the heteroplasmic nature of the tissue-changes. The morbid principle is operating upon and in the formative elements of the body; the result being in the laying down of nerve-tissue. This represents a deeply-seated, vital disturbance, one that has a tendency to perpetuate itself in its progeny. Other forms of venereal contagion represent destructive changes, and the fact alone must at once argue a radical difference. Our remedies, therefore, must have a particular reference to the vital character of the morbid process; a character almost removing it from the catalogue of true morbid action; rather a sort of perversion of vital effort; a form of life normal in kind, yet abnormal in remote development. There can be little question that all vital function, psychical, mental, and

physical, is soon brought into harmony with the disturbing element.

“If syphilis is of this character, if it is practically incurable taken as a whole, but occasionally disappears in isolated and infrequent examples, what occasion can there be for treatment? The answer is easy, and should be satisfactory. It is perfectly possible to retard or modify development, perhaps in the majority of cases to delay secondary manifestations until a future generation, or, if no offspring results, secure some degree of objective freedom from disease during the life of the individual. The faint hope that the particular case in hand may be one of imperfect inoculation, and thus have a tendency to spontaneous cure, will also be an additional reason for persisting in treatment. In short, remedies are to be employed for the purpose, and with the hope, that some essential modification of the process may be secured.

“In all conditions that may be considered specific, or, in other words, of a fixed and more or less unvarying type of semeiology, we may reasonably hope to find a single remedy, or class of remedies, that will be found a measurable exact simillimum. In the case of syphilis these conditions, in all respects, are amply fulfilled. The different preparations of *Mercury*, in spite of all that is now the fashion to say in opposition to their claims, have been proved to be the best remedial agents. My own experience simply supplements that of the great mass of our school of therapeutics, and is perfectly convincing. The only question for debate, I think, is as to the particular preparation of the drug; some prefer one, and some another. My best results have been derived from the *corrosivus*, or *vivus*. I use it in alternation from the 6th to the 30th, the choice being chiefly with reference to convenience, as one seems to give as good results as the other. During the primary stage at least I have never used any other remedy, unless it be *Hepar*, as noted further down.

“The inguinal glands must be closely watched, supposing the ulcer to be on the genitals—or the nearest system of glands when the initial lesion is elsewhere, as occurs from mediate contagion. If they become enlarged, but do not proceed to suppuration, secondary manifestations are almost certain. If, on the contrary, they do suppurate, there is a hope that the *materies morbi* may be eliminated. Thus, if there is the slightest appearance of suppuration it must be fostered and promoted, both by the use of poultices and the administration of *Hepar 6x*. I do not assume that suppuration is a

positive guarantee of cure, but it is quite reliable. On the other hand, a failure in this direction may unhesitatingly be stated as a positive proof of non-cure, and secondary symptoms may be expected sooner or later.

"All local measures, medicinal, instrumental, or otherwise, are perfectly useless; may be hurtful. The appearance of the ulcer is the signal of constitutional infection; that the local stage has passed. It is necessary to make a clear distinction between the venereal contagion, in this respect, for whilst local treatment is hurtful in syphilis, it is *sine qua non* in chancreoidal affections.

"Some will be disposed to adhere to *Mercury* in all stages of syphilis, on the supposition that the different stages proceed from the same initial cause. We must remember that different stages argue a corresponding difference in tissue changes, and that other remedies may properly be selected. It is true that *Mercury*, in some form, will oftener be found indicated in all the stages, but it is possible that some other remedy will be so more prominently. The remedies given in Berjeau's Monograph, or Lilienthal's Therapeutics may be consulted in such cases."

GONORRHOEA.

Gonorrhœa is a specific inflammation of one or more parts of the genito-urinary passages, accompanied by a purulent discharge. It also occasionally attacks other mucous surfaces, especially the conjunctival and rectal. It is usually considered under two heads; namely, gonorrhœa in the male, and, secondly, gonorrhœa in the female.

Gonorrhœa in the male.—Gonorrhœa in the male is a specific inflammation of the mucous membrane of the urethra, accompanied by a purulent discharge. The inflammation first attacks the anterior portion, thence travels to the bulbous and membranous parts. In rare cases it extends to the prostate gland, to the neck of the bladder, and to the epididymis.

Symptoms.—From the date of exposure to contagion to first development of the disease there is an interval of from one to six days. Three days is about the usual period of incubation. The first symptoms are redness, itching, slight serous discharge, and smarting on urinating. In a short time the discharge becomes more abundant, becomes mucopurulent, and is of a greenish-yellow color. Swelling around the orifice, smarting, burning pain in the urethra, and aching

in the penis, perinæum and groins follow. There is frequently some febrile disturbance. Micturition is quite painful, and there are frequent erections, particularly at night. Micturition is painful in proportion to the extent of mucous membrane affected; being less when the inflammation is confined to the anterior portion of the urethra. When the bulbous and the membranous portions are involved there will be chordee (or painful erection), some pain in the perineum, frequent desire to pass water, and sometimes swelling of the prostate and testicles.

Gonorrhœa terminates in three ways: 1st. Cessation of pain and discharge. 2d. Cessation of pain and diminution of discharge. 3d. Cessation of all symptoms but a slight glairy discharge, constituting the affection called gleet.

Gleet is caused by chronic inflammation of one or two small patches of mucous membrane after acute gonorrhœa.

Causation.—The most common cause is the contact of a specific poison with the mucous membrane, most commonly during sexual intercourse. Other causes are the acrid secretions of the vagina, and excessive sexual intercourse.

Diagnosis.—The diagnosis of urethritis from contagion, and urethritis from other causes, is frequently impossible, especially when none of the complications peculiar to gonorrhœa are present. From balanitis it is distinguished by the absence in balanitis of urethral discharge. Chancre of the urethra, which causes a discharge from the meatus, can be detected by examination.

Prognosis.—The prognosis is generally favorable. When complications arise they may cause serious and prolonged consequences.

Complications.—These are chordee, balanitis, phimosis, paraphimosis, retention of urine, prostatitis, epididymitis, inflammation of the neck of the bladder, sympathetic bubo, gonorrhœal ophthalmia, and rheumatism.

Prostatitis is a severe complication, and may end in the formation of an abscess and the escape of pus into the urethra—the usual way—or into the rectum, perineum, or bladder. The symptoms are: some pain in the region of the prostate, swelling, painful, slow urination, feeling of fullness and weight in the anus, and frequent urging to stool. If suppuration occurs the symptoms increase in severity until the abscess bursts, or is opened, when immediate relief follows. Permanent enlargement of the gland may remain.

Inflammation of the neck of the bladder is not an infrequent

complication. The symptoms are: constant desire to urinate, intense burning, scalding pain after micturition, bloody or purulent urine, and spasmodic contraction of muscles of the neck.

Epididymitis is of frequent occurrence. It occurs oftener during the third week of the attack of gonorrhœa. The inflammation extends to the epididymis from the urethra along the vas deferens. The tunica vaginalis, scrotum, and testes are implicated to some extent. The symptoms are: swelling, severe pain, and extreme tenderness of the epididymis. The scrotum is tense and shining, and the tunica vaginalis is distended with serum. The tenderness remains for some time after the pain and swelling disappear and the effused serum is absorbed.

Ophthalmia.—Gonorrhœal ophthalmia is by many supposed to be invariably caused by the direct application of the specific virus to the conjunctiva. Others hold that it is occasionally constitutional, like gonorrhœal rheumatism. The symptoms are those of ordinary purulent ophthalmia.

Rheumatism.—Gonorrhœal rheumatism may attack the patient during the height of the disease, during its decline, or after the discharge has ceased. It affects the joints, bursæ, fasciæ, and sheaths of the great nerves. Barwell, an authority on rheumatism, considers the term gonorrhœal rheumatism misapplied. He considers this complication as belonging to the category of inflammation of the joints, etc., dependent on purulent infection of the blood, and applies to this pyæmic form of disease the term pyarthrosis. He attributes the pyæmia, in cases of so-called gonorrhœal rheumatism, to inflammation of the prostate veins. The symptoms, however, strongly resemble those of sub-acute rheumatism.

Gonorrhœa in the female.—Gonorrhœa in the female is of somewhat different character from what it is in the male. It consists of contagious, acute or chronic inflammation of the vulva and vagina, extending to the urethra, and often to the canal of the cervix uteri. The part most frequently attacked is the vagina.

The symptoms of vaginitis are: inflammation, bright redness, and swelling of the mucous membrane, beginning at the fore part of the vagina and spreading to the uterus and urethra. There is heat, itching, smarting during micturition, and aching pains in the sacrum and perineum. At first the mucous membrane is dry and bright red; soon there is a

secretion of thin, transparent mucus, which speedily changes to an abundant thick, creamy mucus, or muco-purulent discharge. The membrane is studded with little granular eminences in greater or less numbers. As the discharge becomes thicker and more copious the more violent symptoms subside; the acute passes in a few days into the chronic stage; the heat, inflammation and swelling cease, but the discharge continues to be free, though not so copious as in the acute stage. In some instances abscesses form in Bartholines' glands, or in the lymphatic glands.

The complications liable to be met with are: vulvitis, urethritis, and inflammation of the cervix. Metritis, perimetritis, and ovaritis are occasional complications.

The symptoms of vulvitis are: redness and swelling of the labia, great pain and tenderness, scalding during micturition, aching pain in the thighs, and a fetid, mucous discharge. It may subside in a few days under appropriate care and treatment, or, if neglected, result in abscess in the groin or ulceration of the parts.

Urethritis is the most common complication, and, with some writers, is held to be an inevitable accompaniment of vaginitis. The symptoms are: itching and smarting at the meatus, which is red and swollen. A mucous or muco-purulent discharge issues from the urethra. This discharge continues for a considerable time, and is a source of contagion. Inflammation of the urethra does not, in the female, extend to the bladder.

Inflammation of the cervix and os uteri is an occasional complication. The neck of the uterus is dark red, swollen, and frequently excoriated. It secretes a clear, viscid fluid at first, which afterward becomes abundant, thick, and purulent. The discharge afterward becomes a thin mucus, which either ceases after a time or becomes chronic. The secretion is contagious, and continues to be so for a long time.

Causation.—The causes are: contagion, excessive sexual indulgence, want of cleanliness, and violent intercourse, as rape.

Diagnosis.—The diagnosis is by no means easy. It is difficult, and in some cases impossible, to distinguish between the specific and non-specific disease. Dr. Henry Bennett says: "I am bound to confess that the only difference I can see between the two (that is the contagious and non-contagious form of vaginitis) is, that vaginitis apparently contracted by contagion appears to be more acute than ordinary

vaginitis; that there is a greater quantity of pus secreted, greater redness, congestion, and swelling of the mucous membrane; that the inflammatory action has a greater tendency to spread to the urethra, and that it is very much more intractable to treatment." Dr. Berkley Hall regards the disease of contagious origin if the urethra secretes a purulent fluid.

Prognosis.—The prognosis is favorable. The disease is generally cured before it becomes chronic, and dangerous complications are infrequent.

Treatment of gonorrhœa in the male.—The patient should be advised to abstain from all exercise; but if it is necessary that he should attend in a measure to his business, a suspensory bandage should be worn. Abstinence from alcoholic liquors, tobacco, coffee, and all rich, indigestible food, should be strictly enjoined. The parts should be kept well cleaned. Frequent washing with warm water not only promotes cleanliness, but affords striking relief. Painful micturition is often relieved by immersing the penis in cold water during the act. Painful erections are often benefited by bathing the parts with tepid or cold water.

Injectons are recommended by some authors and discountenanced by others. If beneficial at all it is only in the first stage of the disease, and before the discharge becomes copious and thick. I have never used injections at any stage of the disease. I believe that many cases of cystitis, epididymitis, prostatitis, and gleet, result from their injudicious use.

The remedies which are indicated in the large majority of cases are: *Aconite*, *Cannabis*, *Cantharis*, *Cubebs*, *Pulsatilla*, *Mercurius*, and *Argentum nit.*

Other remedies occasionally indicated are: *Agnus castus*, *Gelseminum*, *Copaiva*, *Hydrastis*, *Petroselinum*, *Sepia*, *Sulphur*, *Nat. sulph.*, *Kali sulph.*, *Thuja*.

I regard ACONITE and CANNABIS the most effectual medicines for gonorrhœa.

ACONITE is indicated in the first stage, and is very useful in allaying the inflammation and the severe pain attending urination.

CANNABIS is indicated when the discharge becomes profuse. Hempel gives the following indications: discharge of purulent mucus from the urethra; burning, smarting in the urethra from the meatus backward; stiches posteriorly while urinating; burning during and after urinating; constant desire to urinate. Cooperthwaite, in his *materia medica*,

gives substantially the same symptoms, and adds in the therapeutic range of the drug, acute gonorrhœa. *Cannabis* is administered in different potencies, from the mother tincture to the sixth dilution. Miller advocates its use in the first decimal, or mother tincture. Dr. Frost, the American Editor of Berjeau on Syphilis, regards *Cannabis* as almost a specific in gonorrhœa, in which he agrees with Jahr. I have been in the habit of giving the first dec. dil. five drops once in four hours.

CANTHARIS is indicated if the neck of the bladder is implicated. The symptoms are: constant urging to urinate with cutting pains in the neck of the bladder, violent and painful erections, chordee, difficult and painful urination, bloody, purulent discharge from the urethra.

CUBEBS.—Cutting and burning pains in the urethra while urinating; yellowish-green, thick discharge from the urethra; turgescence of the penis and severe priapism; burning in the neck of the bladder and urethra.

PULSATILLA.—*Pulsatilla* is indicated in mild cases, with no great irritation of the urethra nor pain while urinating. The discharge is thick, yellow, or greenish-yellow. *Pulsatilla* is particularly indicated in orchitis from suppressed gonorrhœa.

MERCURIUS CORROSIVUS, according to Berjeau, is indicated when the orifice of the urethra is swollen, with suppuration between the glans and prepuce, the glans being red, hot, and painful when touched, accompanied by burning pain and itching; stinging and throbbing in the urethra, the urine passing in a feeble stream; the discharge is greenish, often painless, and worse at night.

ARGENTUM NIT. is indicated in violent inflammation, chordee, swelling of the penis, fever and sensation as if the urethra were drawn into knots, urination attended with burning, and sensation as if the urethra were closed; cutting pain extending to the anus; purulent discharge.

The treatment for gonorrhœa in the female is the same in all essential particulars as in the male. The strictest attention should be paid to cleanliness and diet; errors in these particulars being liable to be followed by exacerbations of the disease. Sexual intercourse should be rigidly interdicted. Rest in bed, warm baths, frequent injections of warm water in which a little *Borax* or *Hydrastin* is dissolved, are recommended.

For the complications which attend female gonorrhœa, as

vaginitis, cervicitis, urethritis, metritis, the treatment for them has already been detailed in the articles on these affections.

Treatment of complications of gonorrhœa in the male.—Chordee.—*Cantharis* and *Capsicum* are the chief remedies. Bathing the penis in tepid water is beneficial.

EPIDIDYMITIS.—The principal remedies for this complication are: *Clematis*, *Pulsatilla*, *Tussilago*, and *Conium*.

PROSTATITIS.—The remedies are: *Aconite*, *Belladonna*, *Mercurius vivus*, *Hepar sulphur*, and *Phosphorus*. [See article on inflammation of prostate gland.]

GONORRHOEAL BUBO.—The remedies are: *Mercurius vivus*, *Mercurius pro. iod.*, *Nitric acid*, and *Lachesis*. The first two remedies will prove curative in a majority of cases.

GONORRHOEAL OPHTHALMIA.—The principal remedies are: *Mercurius corrosivus*, *Apis*, *Arsenicum*, and *Pulsatilla*. *Mercurius corrosivus* is the most efficient.

GONORRHOEAL RHEUMATISM.—The principal remedies for gonorrhœal rheumatism are: *Phytolacca*, *Mercurius sol.*, *Merzereum*, *Pulsatilla*, *Bryonia*, and *Rhus tox*.

PHYTOLACCA is the chief remedy. The symptoms indicating its use are: rheumatic pains in the ankles, knees and elbows, increased by motion, and worse at night after midnight; rheumatism after free use of *Mercury*; *nightly periosteal* pains; heavy, dragging pains from hip to the knee, pain mostly on right side.

MERCURIUS.—Rheumatism worse at night, attended by sour perspiration, which does not relieve the pain.

PULSATILLA is indicated in wandering rheumatic pains, shifting from joint to joint; rheumatism in consequence of suppressed gonorrhœal discharge.

RHUS is sometimes beneficial, especially when rheumatism appears during or after an attack of gonorrhœa, in consequence of exposure to cold and damp.

GLEET.

Gleet is often an annoying and persistent sequela of gonorrhœa. It consists of a muco-purulent serous or pale green fluid from the urethra, without inflammatory symptoms or pain. It is due to weakness of the mucous lining of the urethra, to patches of chronic inflammation in the canal, or erosion of the orifices or ducts of the prostate gland. The discharge is more or less great, but generally is scanty, consisting of but a few drops, slightly staining the linen.

The disease is frequently very obstinate and persistent, defying all treatment for an indefinite period, and frequently resulting in stricture of the urethra.

The remedies for gleet are: *Mercurius corr.*, *Ferrum*, *Phosphoric acid*, *Phosphorus*, *Sepia*, *Nitric acid*, *Mezereum*, *Sulphur*, and *Lycopodium*.

MERCURIUS CORR. is indicated if the discharge is a greenish yellow, containing pus.

FERRUM.—Painless gleet of a milky-white appearance, copious, and arising from debility of the mucous membrane.

PHOSPHORIC ACID.—A few drops of a white mucous discharge every morning.

PHOSPHORUS.—Glueing of the orifice of the urethra with viscid mucus in the morning.

SEPIA.—Slight discharge of purulent mucus at night, staining the linen yellow.

NITRIC ACID.—Bloody muco-purulent discharge, indicating ulceration of the urethra.

MEZEREUM.—Slight discharge of albuminous fluid, viscid and tenacious.

SULPHUR is indicated in intractable cases of long standing, and particularly if there is a scrofulous diathesis.

SECTION SIXTH.

GENERAL DISEASES.

CHAPTER I.

FEVERS.

CLASSIFICATION OF FEVERS. EPHEMERAL FEVER—SYMPTOMS AND TREATMENT. TYPHOID FEVER—MORBID ANATOMY—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT. TYPHUS FEVER—CAUSATION—MORBID ANATOMY—SYMPTOMS—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT.

CLASSIFICATION OF FEVERS.

DISEASES classed by modern nosologists as fevers, are now considered under the head of general diseases, to distinguish them from diseases affecting individual organs.

Diseases once classed under the head of fever, as brain fever, gastric fever, etc., are now excluded from the category of fevers. Fevers may be divided into certain general groups according to the causes which produce them, or according to certain general symptoms which characterize them.

Thus we have fevers of short duration, and of a mild type, which are called ephemeral fevers or febricula; others which show marked periodicity are called periodic fevers, of which intermittent and remittent fevers are the best known types:

Another class of long duration and with a constant febrile condition, is known as continued fever; as typhoid and typhus. Another in which an eruption on the body is a distinctive feature, is known as eruptive or exanthematous fevers, of which measles and small-pox are examples.

There are certain other characteristics which distinguish fevers, and which are often used in describing them. Those

fevers are called ataxic which are accompanied by derangements of the nervous system, as delirium, insomnia, etc.

Fevers accompanied by great prostration are said to be adynamic. Fevers exceptionally fatal are called malignant. Those with toxæmia or septic changes in the blood are styled putrid fevers. Those which exhibit a marked tendency of blood to particular organs are called congestive. A good many different names have been applied to typhus, as jail, ship fever, etc. A severe form of remittent, is known in the South as the swamp or marsh fever.

What is fever? and, what symptoms are essential to constitute that condition which we call fever? Of the essential pathological conditions we know very little. We know something of the causes inducing them, but why the different miasms should produce different groups of symptoms, we do not know.

There are, however, certain symptoms which pertain to all fevers. They generally develop slowly, and are preceded by a well defined chill, rigors or chilly sensations, the pulse is accelerated, and the temperature of the body is raised. There is loss of appetite and thirst, headache generally frontal, muscular pains, lassitude and debility. The urine is diminished in quantity and darker in color than normal. Nearly always there is notable decrease in weight, and an excess of carbonic acid in expiration. These two taken together show an abnormal destruction of tissues from oxydation.

We see from these symptoms that fever involves the whole system, nervous, circulatory, muscular, and digestive.

EPHEMERAL FEVER.

We are often at a loss in treating fevers, under which class, according to the older nosologies, to place many cases which come under our care. There is no marked periodicity, none of the distinctive features of typhoid or of the exanthems and we can only say, it is a fever. I hardly ever use the term ephemeral fever, for I would not be understood if I did, so I have fallen into the habit of calling them, if they last any length of time, simple continued fevers. It is not strictly correct, yet it is the best name I can find for them. If of brief duration I call them simple fevers, which answers all practical purposes. My object is to exclude periodical and typhoid fevers, for these are all the others we have occasion to treat. They are called by some writers irritative and synochal fevers or febricula.

The symptoms are, chilly feelings, loss of appetite, debility, full rapid pulse, considerable increase of temperature, headache, constipation, scanty and high colored urine, and muscular pains in the limbs and lumbar region.

The disease lasts from three to ten days, and convalescence is usually rapid, showing a marked contrast to convalescence after severe remittent or typhoid fever.

Diagnosis.—The diagnosis is important, in that we are required to discriminate between this and typhoid. It is sometimes difficult to determine whether the disease is typhoid fever or not. Some contend that many cases of it are really aborted typhoid. Commonly, however, typhoid has a much slower development, the general feeling of malaise lasting for some days prior to the invasion of the febrile stage. The diagnostic marks of typhoid are wanting.

The prognosis is favorable, the disease rarely ending fatally.

Treatment.—*Gelseminum* is indicated at the outset, and is generally sufficient to effect a cure. Its symptoms are chilliness, aching in back and limbs, headache with fullness in the head, *eye-balls* sore when moving them, fever with full pulse, not so much restlessness as in the aconite fevers. It is a favorable indication if a free perspiration breaks out with subsidence of the pain in the back and limbs. This remedy will frequently break up ephemeral fever in forty-eight hours.

After the violence of the fever has abated, and convalescence is delayed I administer *Bryonia*. There is debility, and lassitude, want of appetite, thirst, bitter taste in the mouth, constipation, high colored scanty urine, frontal headache, muscular pain.

I give *Gelseminum* in the 1st dec. dilution. Put twenty drops in one-half glass of water, and give a teaspoonful every hour.

Bry. 3d, a dose once in two or three hours, when indicated.

Ant. cru., Cinchona and *Nux. vomica* are occasionally indicated.

TYPHOID, OR ENTERIC FEVER.

(*Synonyms*, ABDOMINAL TYPHUS, ILEO-TYPHUS, FEBRIS PUTRIDA, GASTRO-BILIOUS FEVER, FEBRIS GASTRICA.)

Called typhoid because resembling typhus.

Typhoid fever is an endemic, slightly contagious disease, and most prevalent in the autumn months.

Pathological anatomy.—The pathological changes in this disease are chiefly found in the ileum, probably as the result of the fever poison. We may find congestion of the brain, softening and ulceration of the stomach, enlargement of the spleen and liver; but these are not constantly present, and are not peculiar to typhoid fever. The lesions which are almost invariably present are certain changes in Peyer's glands, the solitary glands, and the glands of the mesentery. If death occurs early we find a swollen condition of the mucous membrane of the ileum, and inflammation of the solitary and Peyer's glands. If it occurs later there is ulceration of the glands, and sometimes perforation of the intestine. The corresponding mesenteric glands are enlarged, sometimes to the size of a hickory nut. Occasionally sloughing occurs within the mesenteric glands, and the slough when separated is discharged into the peritoneal cavity.

The glands of the intestines are more affected the nearer they are situated to the ileo cæcal valve, and if perforation of the intestine takes place it is usually within six inches of the cæcum. The last two or three inches of the ileum is usually found greatly swollen and in a state of disintegration. In some cases many small ulcers are converted into a single deep, ragged one, which is surrounded by swollen, red mucous membrane. Occasionally the glands of the cæcum and colon are the seat of inflammation and ulceration.

The spleen is more or less congested in every case; is usually enlarged, sometimes to two or three times its natural size; is dark in color, and of diminished consistency. It is frequently so soft that it can very easily be broken down.

The lungs in many cases present evidences of inflammation and solidification. According to Louis, the lungs are more frequently involved in typhoid fever than in any other disease.

Symptoms.—As a rule the disease is developed gradually, the precursory stage lasting from six to fourteen days. It may set in with great rapidity, but such cases are not common. In the developing stage the patient feels languid and uneasy, without being able to define exactly the nature of the sensations and is easily fatigued. There is loss of appetite, aching pains through the body, and the tongue is covered with a whitish fur. In a few days there are chilly sensations, headache, some intolerance of light, thirst, tongue more heavily loaded, but red at the tip, great sense of debility, pulse rather feeble, some tenderness in the abdomen, and

more or less wakefulness. At night there is heat of the skin, restlessness, and a great deal of thirst; some nausea. Generally there is some looseness of the bowels. As the disease progresses the symptoms increase in intensity and others are superadded. The countenance becomes languid and pale, or there is a circumscribed flush on the cheeks. The eyes appear sunken; the urine is diminished in quantity, and occasionally is retained; the pulse becomes more rapid, and the temperature of the body increases; the breath becomes offensive; the lips parched and brown; the tongue dry, parched, cracked and brown; sordes accumulate on the teeth; the abdomen is tender, especially in the right iliac fossa. Headache is not usually complained of in this stage. The mental condition, irrespective of delirium, is characterized by apathy and indifference. No particular desire for food or drink is manifested, although the mouth is dry and parched. The patient makes no complaint; if spoken to, replies slowly; if asked how he feels, generally replies that he feels well. The special senses are impaired, especially the sense of hearing. Sensation is blunted. At times there is marked dilatation of the pupils. Delirium is manifested in a majority of cases, not generally setting in until the second or third week. It may be slight or severe. It is seldom of a violent nature, but occasionally manifests itself in violent screaming, and efforts to escape. Sometimes the patient takes strange fancies, which are persistent. Generally the delirium is an incoherent muttering, with desire for change of location, or to escape a pursuer. Other symptoms accompanying the delirium are: picking at the bed-clothes, or grasping at imaginary objects in the air, with a fixed look, as if they were visible.

There is also in most cases a constant twitching of the muscles, more especially observable in the hands, called *sub-sultus tendinum*. In the worst cases the apathy runs into coma, with sometimes stertorous breathing.

The bowels are usually loose. The passages are generally of a dingy yellow color, like yellow ochre. In some cases there is constipation instead of diarrhœa. In grave cases there are involuntary discharges from the bowels, or retention and dribbling of urine. Hemorrhage from the bowels occurs in a certain percentage of cases. I have had some five cases of this kind. It is a grave symptom, according to some authorities; according to others, it does not indicate much danger.

Other symptoms pertaining to the intestines are meteorism and gurgling; these, together with the tenderness in the right iliac region and the ochre colored diarrhœa, are considered diagnostic of the disease. The distention is not usually very great, and the gurglings are owing to the presence of gas in the intestines.

During the second week the characteristic eruption appears on the skin. This consists of papulæ. They are small, slightly elevated, and of a light rose color. They appear on the trunk. The eruption is not always present, or at most only one or two spots are observed. Miliary vesicles are more common. They appear on the neck and chest, and are filled with a clear fluid or serum. Ecchymoses and petechiæ are observed in protracted cases. In a certain proportion of cases profuse perspiration occurs. Its persistence is not a favorable symptom. It is advisable to carefully watch the lungs, for, pneumonia is liable to arise as a complication at any time, but more especially in cases occurring in the fall. The patient in his apathetic condition makes no complaint. The cough is seldom severe, consisting only of an occasional hack. Auscultation will reveal the presence of pulmonic complication. Inflammation and suppuration of the parotid gland occasionally occur. The complication is unfavorable, and even should the patient recover, it retards convalescence. The temperature is always increased in typhoid fever. It does not often rise above 105. A heat exceeding this indicates danger. A sudden rise in the temperature indicates the occurrence of some complication. A steady decrease, with improvement in the other symptoms, indicates convalescence; but a sudden fall, with no amelioration in other respects, is unfavorable. A sudden decrease of the temperature sometimes precedes hemorrhage from the bowels. The duration of the disease varies widely in different cases, but the average duration is about twenty-eight days. Death is more liable to occur during the first sixteen days. My own experience is that if patients survive two weeks they are likely to recover.

I have not given the symptoms of any one individual case, but those which may occur during the progress of the disease. We may expect any one of them, but rarely all of them.

Typhoid fever prevails in every inhabited region of the world, and attacks all classes of society. It is met with in the hovels of the poor, and in the houses of the rich; in damp,

ill-ventilated houses, and in well-constructed mansions. It does not attack all ages in equal degree. Those at or near the age of puberty are most liable to contract the disease; more than half of the cases of the disease occurring between the ages of fifteen and twenty-five years. The disease seldom occurs twice in the same individual. Only occasional instances of recurrence are recorded.

Causation.—Predisposing causes are: age, season, temperature, atmospheric conditions, etc. As I said before, youth is more favorable to the development of typhoid than other periods of life. The disease prevails more extensively in the months of September, October, and November.

Exciting causes are: contagion, exposure to the effects of sewer-gas, drinking polluted water, breathing vitiated air from ill-ventilated cellars, or accumulations of animal excreta.

There is some difference of opinion regarding the contagiousness of typhoid fever. Many hold to the opinion that it is not at all, or but slightly contagious, from the fact that the attendants on the sick are seldom attacked by the disease. On the other hand, Drs. Budd, Bretonneau, and others, hold that typhoid is highly contagious. They record many cases of the disease attacking individuals exposed to it. Vitiated air and polluted water are undoubtedly the most prolific sources of typhoid fever.

Dr. Harley sums up his observations on the causes of typhoid as follows: 1st. That refuse animal and vegetable matters, if allowed to accumulate and decompose in seasons of drought, generate a poison, which if not washed away or diluted by sufficient rain, rises into the air, or becomes diffused through the water, and which, when introduced into the body through these media, may produce enteric fever. 2d. That food or water rendered impure under conditions less general, may also be the means of producing the same disease. 3d. That there can be little doubt that the usual symptoms and post-mortem appearances of enteric fever may arise during the progress of several other acute diseases, as a consequence of a general inflammatory condition.

Diagnosis.—The diseases with which typhoid fever may be confounded are not many. Severe attacks of remittent fever are most liable to be mistaken for it. Indeed, I think many cases of remittent fever pass under the name of typhoid, and the patient, physician, and friends congratulate themselves upon a speedy recovery from typhoid,

when the patient has had no such disease. The well-marked remissions of remittent serve to distinguish this disease from typhoid fever.

Other diseases liable to be confounded with typhoid are: pneumonia, bronchitis, enteritis, and meningitis.

The principal diagnostic symptoms of typhoid fever are: pain and tenderness in the right iliac fossa; yellow, ochre-colored stools, and rose-colored eruptions. If these symptoms are present we may be sure of enteric inflammation.

Typhoid may be distinguished from pneumonia by its precursory symptoms, and by the appearance of the pneumonic complication subsequent to the invasion of typhoid.

Prognosis.—The fatality of the disease varies much in different seasons. One year it is exceptionably fatal, while during other seasons the rate of mortality will be very low. In some places an epidemic of typhoid has proved as fatal as cholera. The average ratio of deaths is from eight to fifteen per cent. The prognosis in many cases should be guarded, while in others we can confidently predict recovery. The severity of the disease will best indicate the probable result. Severe delirium at an early stage is unfavorable. Nevertheless, in the worst cases we have resources of treatment which should keep us from despairing of a favorable termination.

Unfavorable indications are: coma, convulsions, subsultus tendinum strongly marked, carpalgia, active persistent delirium, inflammation of the parotids, profuse intestinal hemorrhage, and great prostration.

Coma, persistent violent delirium, are very grave symptoms, and render the prognosis decidedly unfavorable. So, also, are great prostration and feeble and very frequent pulse. A temperature above 106 is ominous of danger, as is also a rapid fall below the normal standard.

The disease is very dangerous occurring during pregnancy, from the danger of abortion and flooding consequent upon it. I once, however, brought a woman safely through the disease when pregnant, and afterward, during convalescence, delivered her of a child weighing only two and one-half pounds.

In the absence of coma, delirium, great prostration, and pregnancy we may expect recovery to take place, and it *may* occur with them. Perforation of the intestine may occur during convalescence, and should be thought of as a possibility.

Pathology.—It is very generally considered that the entrance of some morbid agent into the circulation is the ex-

citing cause of typhoid fever, but the question arises how are the various lesions produced, especially of the intestines, by the action of the poisonous agent. It is probably through disturbance of the functions of the liver, either by vascular congestion or by the action of the zymotic poison upon the secreting vessels, thus causing more or less derangement and paralysis of its functions. One of the offices of the liver is to neutralize and decompose any hurtful or noxious matters which enter the portal circulation. But if the force of the poison entering the hepatic circulation is such as to decrease the eliminating power of the liver and to impoverish the character of the bile, which, instead of being thick, heavy, and alkaline, becomes watery, neutral, or even acid, then the chyme mixed with imperfectly formed bile becomes a cause of irritation to the intestinal tract and gives rise to the formation of gas with consequent distension of the intestines and irritation and ulceration of Peyer's, and the solitary glands. These glands are more affected than other parts of the intestinal canal, first on account of their greater vascularity and delicate cellular structure, and they are more affected at the lower part of the ileum, both on account of the greater number of glands in this portion of the ileum, and from the manner in which the ileum merges into the cæcum. The juncture of the two portions of the intestine resembles the sphincter ani and the construction of its fibres causes an arrest of the venous circulation beyond it, thus necessarily increasing the tendency to congestion in the portion of the ileum nearest it.

Treatment.—First in importance are hygienic measures. The patient should, if possible, be placed in a large well lighted and well ventilated room, and perfect quiet be maintained. Whispering, tip-toeing about the room, and frequent questions should be prohibited. All wants of the patient should be sedulously but quietly attended to. In his apathetic condition he will seldom ask for anything, and his wants will be rather indicated by moaning and restlessness than by words. Although not asking for food and drink, he will, nevertheless, frequently take both with apparent relish when offered. Scrupulous attention should be paid to cleanliness. The region of the bladder should be examined, if the urine is detained for an unusual period, or if it dribbles away, and if there is evidence of considerable accumulation it should be evacuated with the catheter. Baths and sponging with tepid water are decidedly beneficial. The patient

may be placed in a bath of ninety degrees and the temperature gradually lowered to eighty or seventy-five. I have, however, generally practiced sponging the whole body with water of a temperature of eighty-five or ninety. It decreases the rate of the pulse, lowers the temperature of the body, allays restlessness, and often induces refreshing sleep. Packing in a wet sheet is often of marked benefit at the onset of the disease. The diet is a matter of the greatest importance, and the utmost attention should be given to the nourishment of the patient. The patient wastes very rapidly under the inroads of the fever, and every endeavor should be directed to hinder the impoverishment of the blood and to support the strength. Milk and beef tea are the most appropriate articles of diet. They are easily taken, contain nourishment in its most concentrated form, and are readily digested and assimilated. Food should be given as often as once in two or three hours. In addition to beef tea and milk, eggs in the form of wine whey, arrow-root, gruel, tea, soup, etc., may be occasionally given. As food during typhoid fever I prefer milk first and beef tea, or strong broth, as second choice.

Alcoholic stimulants are largely given by all schools, but I do not recommend them. They may serve to tide over a crisis of brief duration, but on the whole I believe the patient will do better without them.

During convalescence some care must be taken in regard to eating. The appetite is very keen, and the judgment of the patient not good. The bed sores, if there are any, must be looked after, and washed with a weak solution of *Calendula*.

The remedies are: *Baptisia*, *Bryonia*, *Rhus*, *Phosphorus*, *Phosphoric acid*, *Hyoscyamus*, *Bell.*, *Carbo veg.*, *Merc. sol.*, *Muriatic acid*, *Arsenicum*, and *Cinchona*.

Those most frequently called for are: *Bry.*, *Rhus*, *Phos.*, and *Hyoscyamus*.

Rapau, in a well-written treatise, highly recommends *Metallum*, by which he means *Metallic arsenic*. He says that one hundred and sixty-seven cases were treated at the Hospital of the Sisters of Mercy in Vienna with this remedy alone, and that one hundred and fifty-six recovered. On examination of the pathogenesis of the medicine in Allen, I do not find any warrant for such extravagant assertions of its curative power.

Two-thirds of the cases will do well with *Bry.* and *Rhus*, given according to the symptoms; the balance will require other medication.

BRYONIA is generally indicated in the beginning of the disease, but especially in the precursory stage, if medical advice is sought for in this stage. Its symptoms are: debility, languid feeling, loss of appetite, tongue coated white, weariness of the limbs, wandering sore pains in the muscles, dry burning heat. Further on in the course of the disease it is indicated for delirium, if present; intense dry febrile heat, great thirst, dryness of the month, abdomen tympanitic and sensitive to pressure, dark colored urine; shooting pains in the chest, *with cough*; hurried, labored respiration; apathy, drowsiness, subsultus tendinum. It is better adapted to cases unattended by diarrhœa.

Rhus has long been considered the chief remedy in the treatment of typhoid fever. Many physicians rely wholly upon it, except in extreme cases. There is no doubt but that it merits high consideration. It is better adapted to what may be called abdominal typhoid fever, to distinguish it from that form characterized by violent cerebral disturbance. The specific indications for its use are: frequent liquid stools of the color of yellow ochre, scanty urine, meteorism, apathetic indifference, slowness of apprehension, low muttering delirium, subsultus tendinum, rose-colored eruption, and milia-ry vesicles. When the disease is complicated with pneumonia it may be used in conjunction with *Bryonia* or *Phosphorous*, the latter being preferable if there is solidification of the lung.

BAPTISIA.—*Baptisia* has of late years attained to a certain reputation in the treatment of typhoid fever. I have, however, derived but little benefit from it. I give the principal indications, and what authority I can gather, for its usefulness. It is recommended, in the precursory stage, by Hale and he thinks it will frequently prevent the development of the disease. The following are the symptoms for which he has found it valuable: Chilliness all day; heat at night; chilliness, with soreness of the whole body; heavy, dull, bruised sensation in the head; stupefying headache, confusion of ideas; delirium at night; heavy sleep, with frightful dreams; dry, red-coated tongue, or brown-coated tongue; sticky mouth; great fetor of the discharges; great debility and nervous prostration, with crethism. Now, this is not a very accurate picture of typhoid fever as we generally meet with it. But in fevers with the above group of symptoms I think it will prove curative. Symptoms characteristic of *Baptisia*, and which are sometimes observed in typhoid, are: dull, stupifying headache; *confusion of ideas*; *dark, red*

face, with a *besotted expression of countenance*; *delirious stupor*—the patient falls asleep while trying to answer a question; tongue coated *yellowish-brown* in the center, with *dark-red edges*.

PHOSPHORUS is of much value in a limited range of symptoms. When the disease is complicated with bronchitis, or pneumonia, with dry cough, rather hurried respiration, solidification of the lung, accompanied by great prostration, it should be given as an intercurrent remedy. It is also valuable if diarrhœa continues after convalescence is established. This condition indicates unhealed ulcers in the ileum, with, of course, danger of perforation and consequent peritonitis.

PHOSPHORIC ACID.—This remedy is not indicated in the more violent forms of the disease, with rapid pulse, burning heat, and active delirium. It is better adapted to a condition of extreme apathy, face pallid, with easy, painless discharges from the bowels. It is *specially* indicated in hemorrhage from the bowels, particularly if the discharges are dark and thick. I seldom prescribe it, save for this condition.

HYOSCYAMUS.—*Hyosycamus* is indicated for noisy, boisterous delirium, in which the patient talks loudly and incessantly, laughs, sings and screams.

STRAMONIUM may be given if the patient is full of absurd fancies and conceits, thinks he has a dual body, or that he is separated into parts, etc.

BELLADONNA is indicated in typhoid fever complicated with congestion of the brain, or meningeal inflammation. The symptoms indicating its use are: severe headache, injected conjunctiva, dilated pupils, wild, furious delirium, incoherent talk, heat of the head, red, turgid countenance, pulse full and rapid, high temperature.

CARBO VEG.—*Carbo veg.* is the forlorn hope in typhoid. The indications for its administration are: extreme apathy, almost amounting to coma; extreme prostration, with no signs of reaction; extremities cold, and covered with cold, clammy perspiration; petechial spots; putrid smelling stools of dark color; spreading bed sores; small, feeble pulse. It is possible in this condition that *Carbo veg.* may rally the sinking powers and ameliorate the condition of the patient.

MERC. SOL. can sometimes be exhibited to advantage if the evacuations are of a greenish mucous character. I am confident that I have derived marked benefit from its use.

MURIATIC ACID, like *Carbo veg.*, is indicated when all the symptoms indicate a great loss of vitality; great prostration,

loss of muscular strength, manifested by *sliding down* in the bed, *involuntary discharges of feces and urine*; in short, all the indications of paralysis of the organs. I put five drops of the acid in one-third of a glass of water, and give a teaspoonful once an hour.

ARSENICUM I seldom use. Bähr considers it the most prominent remedy in typhoid. The symptoms he describes as indicating its use will seldom be met with, and it seems to me that his cases are rather hypothetical than realities. If there is unquenchable thirst; burning pains in the stomach and bowels; bed sores forming early, with tendency to enlarge; great distension of the bowels; periods of sudden prostration, like collapse; bloody diarrhœa; very offensive breath; weak, trembling voice; tongue dry, brown and cracked; feeble, rapid pulse; and rapid emaciation, *Arsenicum* is indicated.

CINCHONA is not indicated during the disease, but if convalescence is slow, with tardy recovery of strength, with weak appetite and digestion, and evacuations of imperfectly digested food, *Cinchona* should be administered.

It is necessary to watch the patient, nurses, and friends during this disease. If we do not the patient will have more physicians than are needful. There are a large number of persons firmly possessed with the idea that they can successfully treat disease, even when the physicians fail, and they are very free with advice, and, if opportunity offers, with medicine, but more particularly with objectionable articles of diet. We should insist that nothing be given without our advice and consent.

In conclusion of our consideration of typhoid, I would say that the disease is rare after forty. It is more common between the ages of thirteen and twenty-five, decreasing each way from that age. It is extremely rare in infancy. In the treatment of typhoid fever I have attached more importance to diet, cleanliness, and good nursing than to medicine. There are many able writers who doubt the cure of the disease by medicine, asserting that it is essentially a self-limited disease, and that all the physician can, or ought to do, is to guard against the complications which are liable to arise, and use his weapons against them. This is called the expectant treatment. There is no doubt but what it is infinitely superior to the practice of active medication. Statistics seem to show better results from well-conducted Homeopathic treatment than from any other. I believe we do not, as a school,

attach as much importance as we ought to hygienic measures, and I earnestly advise more attention to them.

TYPHUS FEVER.

Typhus fever is an acute infectious disease lasting from fourteen to twenty-one days, generally occurring as an epidemic and distinguished by a characteristic eruption appearing between the third and sixth days.

Causation.—A predisposition to typhus may be engendered by any depressing bodily and mental influence. Overwork and anxiety render the system more liable to contagion. It is among the poor in the badly drained and ventilated quarters of large towns, that typhus finds the most of its victims. People of even moderate means, tolerably well fed and housed, generally escape unless repeatedly exposed to infection.

Famine, war, prolonged strikes of trades, periods of commercial distress, are liable to be accompanied or followed by epidemics of typhus. This has been well exemplified during the famines in Ireland, and the late war in Turkey.

Another and most potent predisposing cause is over crowding, whether in huts closely crowded together, in large and high tenement houses, in transport or emigrant ships, or in military camps.

In England and Scotland the evil of too dense a population has become so serious, in consequence of repeated visitations of typhus and typhoid, that legislative enactments have been passed regulating the space to be occupied by each person. It is probable that other causes than contamination of air favor the dissemination of the disease, as, facility of communication and, therefore, of contagion.

Climate appears to have something to do as a causative influence. The disease has its special habitat in cold and temperate climates. It rages with more virulence in the colder months of the year. This is accounted for by the greater want of sufficient food and clothing, and the consequent huddling of families together in ill lighted and ventilated rooms for shelter and warmth. It is, also, more prevalent in low damp localities, than on high well drained sites.

The special exciting cause of typhus is a poison or miasm transmitted from one person to another by contagion. Evidence of this is seen by the rapid spread of the disease among those exposed to its influence. Persons who have

not been exposed to any predisposing cause contract the malady, if long in contact with the sick. It is alleged that nurses in typhus hospitals invariably contract the disease, no matter what sanitary precautions are taken. Physicians and clergymen in attendance upon numerous cases of the fever, almost always take it sooner or later.

During a terrible epidemic some thirty-five years ago in Montreal, Canada, among emigrants from Ireland, nearly every priest detailed to look after the sick contracted the disease, and many of them died. Indeed it was considered to be almost certain death to go. Yet none refused to obey. But, however contagious in crowded houses and hospitals, it is not often carried by the attendants, neither does it spread from hospitals to adjacent streets. Casual visitors seldom contract the disease, so that it seems that close and continual contact is necessary for its development. It is pretty well established that typhus can be communicated by the use of articles of bedding or clothing, apart from residence in the house infected, or a close contact with the sick but not nearly as readily as from the fomites of small-pox or scarlatina. The poison seems peculiarly capable of destruction by dilution with atmospheric air.

Morbid anatomy.—There are not many anatomical changes observable in typhus, and the only one constantly present is a change in the blood. Changes are also seen in the muscles, mucous membranes, kidneys, lungs, and brain.

The blood is particularly liquid, either not coagulated at all or is found in the heart and vessels in large soft clots, which rapidly decompose.

The muscles become soft and flabby, particularly those of the heart, which also undergoes fatty degeneration, when death occurs during or subsequent to the third week of sickness.

The mucous membrane of the stomach and intestines is inflamed and congested; exudation of soft lymph being sometimes found in the latter. The agminated and solitary glands are occasionally enlarged. Ulceration, however, does not occur as in typhoid.

Of the glands the liver, spleen, and salivary glands are most frequently affected. They become enlarged and softened. Occasionally the salivary glands suppurate and slough. The only changes observed in the brain is some excess of blood in the sinuses, injection of the membranes and some vascularity of the brain tissue.

Symptoms.—The period of incubation of typhus varies from one to ten days. It is difficult to accurately determine the point, because a single exposure to infection is rarely followed by an attack of the fever.

The first symptoms are headache, loss of appetite, slight chilliness, pain in the back, and a sense of languor and weariness. These precursory symptoms last two or three days. They are followed by an attack of shivering, increased headache, dry hot skin, thirst, a heavy dull look, frequent soft pulse, dry tongue, stupor, prostration, muscular pains, and constipation. In some cases there is diarrhœa instead. The general appearance of the patient is characteristic. He lies prostrate on his back, with a weary and dull expression of face, his eyes heavy, and with a dusky flush extending uniformly over his cheeks.

In the advanced stages of a severe attack he lies with his eyes half shut, moaning, and too prostrate to speak, to protrude his tongue, or to turn himself in bed. The mouth is dry and parched, the lips and teeth covered with sordes, the skin hot and dry, the tongue and hands tremulous.

The pulse is accelerated, ranging from 90 to 140 or 150, according to the severity of the attack. In severe cases the pulse continues to rise until the crisis is reached, when, if favorable, it steadily subsides. A sudden fall denotes danger. A gradual fall, followed by a sudden rise, denotes the accession of some complication. The difference between the morning and evening pulse is not marked. The character of the pulse varies. Sometimes it seems strong and full to the finger, but a slight compression obliterates it; at other times it is small and feeble. It is frequently irregular and intermittent, losing every other beat.

Temperature.—The temperature begins to rise at the commencement of the disease, and ranges from 103 to 107 degrees. It continues rising until the third day, when it often reaches 105 to 107 degrees. The maximum rise is generally reached by the fourth day, and then a slight fall takes place. At the end of the first week a remission usually takes place, except in the severest cases. During the second week the temperature rises again, but rarely to the height reached the first week. Toward the end of the second week, between the twelfth and fourteenth days, another remission occurs, in both mild and severe attacks, even in those about to prove fatal.

In favorable cases the temperature begins to subside some-

time between the thirteenth and seventeenth day. The fall is quite rapid, sometimes as much as three or four degrees in twenty-four hours.

If the disease is about to end fatally a very rapid rise takes place, a short time before death, the temperature becoming higher than at any time during the sickness.

The difference between the morning and evening temperature is not great, being considerably less than in typhoid.

Eruption.—The rash of typhus, called the mulberry rash, appears between the fourth and seventh days. It consists of irregular spots of dusky or mulberry color, disappearing on pressure and feeling as if slightly raised above the skin. The spots may be few or many, small or large, from the coalescence of several small ones. The number and depth of color are in proportion to the severity of the attack. They appear first on the wrists, borders of the axillæ, and epigastrium, then on the chest and extremities.

At first the spots fade on pressure. In a day or two they become of a brick-dust color, are permanent under pressure and continue to the end of the disease. In some cases the eruption becomes converted into petechiæ.

The lungs and bronchial tubes are very liable to become affected, and constant watchfulness should be observed for the first manifestations. The chest should be examined daily even if there are no objective symptoms such as cough, expectoration, and increased frequency of respiration. In many cases during the second week, there will often be crepitant rales at the base of the lungs, and dulness of one or both; later mucous rales will be heard. This condition of the lungs may exist without cough or expectoration.

If there is expectoration it resembles that of pneumonia or bronchitis. Lung or bronchial complication usually subsides about the time of the turning point of the fever, but consolidation of the lung may remain for a period after convalescence from the fever begins.

In fatal issue from lung complication the skin becomes livid, the respiration impeded, the pulse feeble, and death ensues from apnœa.

Nervous symptoms.—The nervous symptoms of typhus are strongly marked, and it is probable that it is upon the nervous system that the typhus miasm expends most of its force.

Weariness, restlessness, and loss of sleep, are the first symptoms denoting nervous disturbance. Then follow loss of apprehension and confusion of ideas.

In a large proportion of cases delirium is present, usually beginning on the fourth or fifth day. The delirium is of the most distressing nature. At first there is confused rambling talk, an uncertainty of identity, confusion as to place and time, from which condition the patient can at first be roused. Then follow illusions of sight and hearing, painful visions and sounds presenting themselves to the disordered perceptions. The patient fancies he is fleeing from some vengeful pursuer, and trying vainly to escape; is confined in close dungeons; is about to be tortured or put to death; has to repeat incessantly some word, or to follow in vain some eluding and aberrant train of thought. At times the delirium takes the form of suspicion. He imagines the attendants wish to poison him, and refuses food and medicine.

After a few days the active delirium passes into the low muttering kind. The patient lies quietly on his back muttering his fancies to himself. In the gravest cases, delirium merges into stupor, with tremulousness of the tongue, and *subsultus tendinum*. In fatal attacks, coma comes on with total unconsciousness, or else the sufferer lapses into the state known as *coma vigil*, staring vacantly, and with fixed eyes, not noticing anything around him. Epileptiform convulsions occasionally occur, and are a fatal symptom. Of the special senses, hearing is most frequently affected, deafness being of frequent occurrence.

When the delirium has been severe and protracted, if recovery takes place a weakness of intellect is often left for a short time.

The duration of typhus rarely exceeds sixteen days, unless there are severe complications. Convalescence usually begins suddenly, all the symptoms subsiding in a day or two.

In fatal cases death occurs in from three to twenty-one days. The ordinary duration of cases ending in death being twelve or fourteen days.

Complications.—The complications occurring during the disease are: diarrhœa, swelling and suppuration of the salivary glands, erysipelas, pyæmia, convulsions, and gangrene of the toes.

Diagnosis.—The diseases for which typhus may be mistaken are: measles, pneumonia, and typhoid fever. Except in the case of children in whom typhus assumes a mild type, there is not much probability of confounding measles with it. The eruption of both appears about the same time, and are somewhat alike. Coryza precedes measles, but does not precede

typhus. The eruption of typhus has not the crescentic shape peculiar to measles, is generally of smaller pattern, and is not so elevated. In addition, measles run a shorter course. The symptoms in what is called typhoid pneumonia, and typhus complicated with pneumonia, are much alike; but the history of each case serves to discriminate between them. In the one the symptoms point from the first to disease of the lung. In the other the lungs become involved later on. The presence of the mulberry rash of typhus is also a diagnostic point.

The points of difference between typhus and typhoid may be tabulated as follows:

TYPHUS.	TYPHOID.
1. Invasion period short.	1. Invasion period more insidious and prolonged.
2. Constipation is the rule.	2. Diarrhoea the rule.
3. Hemorrhage from the bowels infrequent.	3. Hemorrhage from bowels frequent.
4. Rash mulberry colored, from 4 to 7 days after invasion, persistent.	4. Rash rose colored, from 7 to 14 days after invasion, appearing and disappearing.
5. Pulse and temperature rise steadily until third day, then remains about stationary until ninth day, then fall.	5. No uniformity in both, but generally high for two weeks; greater difference in pulse and temperature morning and evening than in typhus.
6. Typhus rare among well-to-do people.	6. Typhoid more common among better class than among the extreme poor.
7. Duration about 14 days.	7. Duration about 21 days.
8. Typhus occurs at any age.	8. Typhoid occurs rarely in children, or after 40.

Prognosis.—The prognosis is favorable in the young, unfavorable in the old. There is a steady increase in the proportion of deaths to recoveries from childhood to old age. According to tables carefully prepared the death rate of children under ten years of age is about 5 per cent; between ten and twenty, 8.6 per cent; between twenty and thirty, 15.6 per cent; between thirty and forty, 21.5 per cent; between forty and fifty, 42 per cent; and over fifty, 66.6 per cent. This shows a remarkable increase in the death rate in patients more than forty years of age.

Fat, sluggish people are more likely to die than those of spare, active habits. Intemperate habits are unfavorable to recovery. Persons habitually overworked, and suffering from mental or physical exhaustion, succumb more readily to the disease than those of more vigor and strength.

Symptoms which render the prognosis unfavorable are: high temperature, as 107 or 108; continuous rise of temperature during the first week; sudden great rise in the beginning of the third week; weak, rapid pulse, reaching or exceeding 150 beats; intermittent pulse; very abundant rash, not affected by pressure; dusky complexion; violent, persistent delirium; continued sleeplessness; coma; coma vigil; carpologia; in-

tense prostration; convulsions; obstinate diarrhœa; severe complications of pneumonia and bronchitis.

Pathology.—Dr. Buchanan says: “The typhus poison is a complex organic substance, probably itself in process of decomposition, and capable of producing chemical changes in the albuminous fluids and tissues of the body. Upon these changes the symptoms of the disease depend, and in the course of them a fresh amount of the specific poison is produced. The nature of these chemical changes is not known, but the evidence of their occurrence in the albuminous fluids and tissues comes from the changes observed in the blood and urine, and the alterations seen in the structure of the muscles in fatal cases.

“The immediate effect of the mechanical change that is brought about by the poison of typhus appears to consist in an alteration of the osmotic properties of the blood. The interchange of material between the blood and alimentary canal is interfered with; an interchange which in health is represented by several pints of fluid daily, and which is of as much consequence to the maintenance of the body as the interchange of gases in the lungs.”

The writer suggests that ammonia, or a compound related to it, is the actual poison of typhus. Dr. Richardson says that in a case of typhus, which he examined during life, the presence of ammonia in excess in the body was indicated by prominent signs. The chief of these were that the breath was so markedly ammoniacal that it coated acidified glass with crystals of chloride of ammonia, and restored the blue color to reddened litmus paper; the blood corpuscles were misshaped, agglomerated and partially dissolved, precisely as they are found when a weak solution of the alkali was added to healthy blood.

Treatment.—To prevent the spread of the disease, abundance of pure air and a sufficient quantity of good food are necessary. Indeed, with these furnished to every one, typhus would soon be a thing of the past.

As the first curative agency, the patient should, if possible, be placed in a large, well ventilated and well lighted room. The next consists in supporting the strength. So great is the destruction of tissue in typhus that it is absolutely essential that nutriment be taken, or else the patient will die.

At first food need only be given at intervals of two or three hours, but as the disease progresses and the debility

and exhaustion increase, the patient should be fed every hour, both day and night. Particularly is it important that food should be given after awakening from sleep.

The foods best adapted to typhus fever patients are: milk, beef tea, beef and mutton broth containing bread, vermicelli, rice, or sago, arrowroot, chicken broth, eggs beaten up with milk, weak tea or coffee, etc. For drinks, the patient may be allowed lemonade, cold weak tea, barley and toast water, or water in which tamarinds or jelly has been dissolved.

If the patient lies in a state of apathy, or stupor, he should be aroused and fed at short stated intervals.

The patient should be frequently sponged with tepid water, and if there should be meningeal inflammation, with furious delirium, cold applications to the head will be likely to prove beneficial.

The utmost attention should be paid to cleanliness, and the clothing of the patient and the bedding should be frequently changed.

Remedies.—The remedies for typhus are: *Baptisia*, *Bryonia*, *Belladonna*, *Hyoscyamus*, *Opium*, *Muriatic acid*, *Rhus tox.*, *Phosphorus*, *Phosphoric acid*, *Apis*, and *Terebinthina*.

BAPTISIA.—Stupefying headache; burning and pungent heat over the whole body; dry, parched, brown-coated tongue, with red edges; thick, indistinct speech; *red, dusky* color of the face; dull look; sinking, faint feeling at the epigastrium; soreness of muscles; confusion of ideas; imagines the body is in pieces, and vainly tries to get them together; listlessness, or stupor, from which he is aroused with difficulty; great debility and nervous prostration. *Baptisia* is better adapted to the earlier stages of the disease.

BRONIA.—Dull, pressing pain in the head, worse on moving; delirium at night; incoherent talk about business matters; restless sleep, with much moaning; constipation; or later in the disease, dry, brown tongue; short, rapid, or sighing respiration; trembling of the limbs; great debility; dullness of hearing; bloated abdomen; dry cough; somnolence.

BELLADONNA.—*Belladonna* is sometimes indicated in the earlier stages of typhus: when there is violent congestion of the brain; intense headache, wild delirium; countenance flushed and turgid; eyes injected, with a wild expression; pupils dilated; tongue red, dry, and trembling; restless sleep,

the patient starting violently from short slumbers; swelling and induration of the salivary glands.

RHUS TOX.—Rhus is more particularly indicated during the period of eruption. The indications for its administration are; petechial spots; apathy, and stupor; the patient lies quietly on his back, with eyes half shut; great weakness and prostration, diarrhœic stools, meteorism, skin hot and dry, tremulous, dry, hot tongue, protruded with great difficulty, inarticulate mutterings, subsultus tendinum, weak and rapid, or irregular intermittent pulse, dullness of hearing.

OPIUM is indicated in severe cases in which the patient passes into a state of profound coma, with contracted pupils, dark red face, slow, irregular respiration, irregular or intermittent pulse. Also in coma vigil, with staring fixed eyes, not noticing anything around.

HYOSCYAMUS is indicated if the delirium assumes the form of illusions of the senses, with frightful or ludicrous fancies; the patient tries to escape.

MURIATIC ACID.—*Muriatic acid* makes an excellent acidulous drink for allaying thirst. It may be prepared by putting ten drops of the acid to four ounces of water, to be given in tablespoonfull doses.

PHOSPHORUS.—*Phosphorus* is indicated in pulmonary complications, dry cough, crepitant rale at the base of the lungs, short respiration, dullness on percussion, and solidification of the lung tissue.

PHOSPHORIC ACID.—Complete apathy and indifference, great depression of vital forces, meteorism, with loud gurgling and rumbling in the intestines, involuntary discharges of thin, watery stools, intestinal hemorrhage, ecchymoses, pulse weak, small, and irregular.

APIS is indicated if albumen appears in the urine in excessive quantities.

TEREBINTHINA is indicated for hæmaturia.

CINCHONA is indicated in protracted convalescence, with great weakness and imperfect digestion or lienteric stools.

During convalescence the patient may be allowed to eat freely of nourishing, digestible food, but care should be taken to withhold all objectionable articles of diet. The room occupied by the patient, the clothing and bedding should be thoroughly disinfected.

CHAPTER II.

YELLOW AND RELAPSING FEVERS.

YELLOW FEVER—DEFINITION—PATHOLOGICAL ANATOMY—SYMPTOMS—
CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. RELAPSING FEVER
—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

YELLOW FEVER.

AN infectious continued fever ushered in with languor, chilliness, fever, headache, and pain in the back and limbs; eyes suffused and injected, skin hot, and as the disease progresses acquiring a yellow tinge; the mind confused, disturbed with hallucinations, or more or less violent delirium; sensitiveness to light and noise; extreme restlessness or drowsiness and even coma; nausea, vomiting, at first of a glairy mucus, subsequently, and toward the last, of "coffee grounds" substance; hiccough.

Pathological anatomy.—The stomach is more especially the seat of morbid changes. Generally a certain quantity of grumous blood is found in its cavity. The mucous membrane is thickened, its longitudinal folds enlarged, and it is easily detached. The liver is soft and friable. Small extravasations of blood into the connective tissue of the lungs are often found.

Effusions of lymph are observed in the pericardium, but the heart itself is usually in a normal condition. The muscles are watery, sodden and of a dingy color. The tissues in general are soft and easily broken down. The brain and spinal cord seldom present an abnormal appearance. In some cases the cord is found to be congested more especially in the lumbar region.

Symptoms.—The attack is sudden although the patient may for some days previously have complained of languor and general malaise. It commences with a chill. The chills alternate with flashes of heat. Violent frontal headache immediately follows, with feelings of extreme lassitude, together with violent pains in the lumbar region and lower extremities. The chills and flashes of heat change to a regular fever of greater or less intensity.

In some cases the fever is intense, the temperature ranging from 103 to 106, and even higher; the skin is dry, hot, and pungent; the eyes suffused and injected; in others the fever and pain are more moderate. The pulse exhibits great diversity of character, being quick, strong, and full, or soft and weak, the beats ranging from 90 to 120 in a minute.

The stomach is usually irritable from the beginning of the attack; nausea and vomiting occurring in a large majority of cases. At first there is simply irritability, but as the disease advances vomiting ensues, the matter ejected being in the first place alkaline, next acid and consisting of a ropy opalescent fluid called "white vomit," and finally, in unfavorable cases, of grumous blood, the so called black vomit.

The bowels are generally constipated in the first stage of the fever, and if there are any stools they are deficient in bile.

The tongue is usually coated with a creamy white fur on the dorsum, with red tip and edges. The thirst is great, with a constant desire for cold water.

The urine is scanty, high colored, and generally albuminous.

The mental condition varies in different cases. The patient is either restless, anxious, disturbed by forebodings, or he may be delirious, or the victim of wild hallucinations like those of delirium tremens. In some instances, he leaves his bed, walks about incessantly or if allowed to, strips himself naked. In other cases there is a tendency to drowsiness from the beginning, which finally culminates in a placid coma.

The skin in the beginning of the attack is pale, but as the intensity of the fever increases it becomes red, the face in particular appearing animated and flushed. On the fourth or fifth day, and sometimes sooner, it acquires a lemon colored tint, from effusion into its tissue of the coloring matter of the blood.

At the end of the second or third day the severity of the symptoms greatly diminish, and the remission constitutes the second stage of the disease. The patient feels decidedly better, the skin becomes moist, the fever subsides, the delirium abates, the pulse grows less frequent, and the irritability of the stomach lessens or disappears. Should the amelioration continue, convalescence is soon established. But too often the remission is of short duration, and the patient passes into the third stage.

The pulse becomes weak and compressible, the delirium returns, or else there is a tendency to stupor; the urine is

suppressed, the tongue is brown and dry, respiration is irregular, hiccough is present, the vomiting is constant, the matter ejected being grumous blood, and raised without effort; hemorrhages take place from the nose, mouth, stomach, rectum, vagina, etc.; offensive, tarry looking stools are passed; ecchymosed patches appear under the skin. Death may take place from exhaustion, the patient remaining conscious until the last; or from convulsions or coma.

Varieties of yellow fever.—Dr. McDonald, in an article on yellow fever, says of its various manifestations:

“Notwithstanding all that has been written on the subject of yellow fever, the gist of every attempted classification of its varieties amounts to little more than a grouping of them in accordance with the several degrees of comparison. Indeed, the phases presented by different epidemics, and by the individual cases in the same epidemic, with no possibility of the interpolation of other complaints to be confounded with it, would give systematists more than they could easily accomplish to define and arrange intelligibly. The types, therefore, are exceedingly variable, and little practical benefit can accrue from these nice discriminations; but when they do not transgress broad boundary lines, they may afford a more precise knowledge of the symptoms and pathology of the disease as a whole. It is notorious that a classification founded upon the experience of one epidemic may be quite inapplicable to another; consequently, whoever has to do with one naturally makes a classification for himself. On this account systems have become so numerous that we can only give place to a notice of one of the best of them; namely, that put forward by Dr. De La Roche, of Philadelphia:

“According to Dr. De La Roche, yellow fever (as a genus) is divisible into two species, viz: First, the inflammatory; and second, the congestive; though these are often connected by cases in every conceivable degree of transition from one to the other.

“First. The inflammatory species appears under three grades, viz: (*a*) the intense; (*b*) the mild; (*c*) the ephemeral.

“In the first the fever is active and short, and death commonly happens before the accession of black vomit; in the second, the fever is more protracted, and may even exhibit partial remissions before the final stage sets in; while the third, as its name implies, is of short duration, and easily amenable to treatment.

"Second. The congestive species is marked by the passage of the disease, as it were, directly from the first sign of indisposition to the last stage, without going through that of reaction. Of this species there are four grades, viz: (a) the aggravated; (b) the adynamic, or typhoid; (c) the walking; (d) the apoplectic.

"(a) The aggravated grade is attended from the commencement with considerable prostration, giddiness, stupor, and loss of memory, delirium, or coma. The tongue is natural, or with white patches and red tip and edges. The countenance is livid and apathetic, and the skin yellow or bronzed. Hemorrhage occurs from one or more of the natural outlets, and the patient keeps up a low, monotonous wailing. In some cases the pulse is nearly natural, the tongue clean, and the stomach calm; but these are attended with excessive restlessness, anxiety, and distress, soon followed by black vomit and fatal collapse.

"(b) The adynamic or typhoid grade occurs in persons deficient in vital power; ushered in with chills, followed by burning heat, partially distributed over the body, viz: principally on the under parts of the arm, and inner surface of the thighs. The pulse is small and weak, the skin assumes an olive hue and is covered with petechiæ or vibices. Hemorrhages are common from the natural outlets, or into the connective tissue beneath the skin, or amongst the muscles.

"(c) The walking grade: Here the functions of organic life appear to be at first alone implicated, those of animal life remaining unaffected. The patient, though sometimes in bed, is found more frequently walking about the room. He only feels weak, but his eye is watery, and his countenance dull and listless; his pulse grows fainter and fainter, until at last he is overtaken with black vomit, and death speedily ensues.

"(d) The apoplectic grade: The patient is more or less suddenly struck down with stupor or coma, and death, preceded by convulsions, soon follows. The pulse is rather weak, and finally becomes faltering. The skin is cold and clammy, or sometimes dry and flabby. In the meantime the patient lies as if stunned, with dilated pupils and an expression of gloom upon the countenance. From this unpromising state an effort at reaction occasionally takes place, but this scarcely ever leads to a successful result. More generally the patient becomes perfectly comatose, the eyes assume a glassy appearance, the pulse fades away, involuntary discharges and profuse hemorrhages supervene, and death soon ensues."

Duration and stages of.—The duration of the disease is from three to nine days, though in the apoplectic form death frequently takes place within a few hours from the beginning of the attack. It is divided into three stages; viz, accession, reaction, and remission.

Causation.—Yellow fever is a disease of hot climates, and it has favorite habitats, where it is habitually present, as in the islands of St. Thomas, St. Domingo, and the western coast of Cuba. It manifestly arises from the action of some subtle, organic poison or miasm upon the blood. In the report of the Homeopathic Yellow Fever Commission is the following in regard to the etiology of the disease:

“Yellow fever is a specific disease, entirely independent of malaria; occurring rarely a second time in the same person; infectious, and capable of transmission to any distance by means of fomites or infected material.

“The yellow fever germs, for we accept provisionally the germ theory of the disease, are indigenous to the West Indies, and perhaps to the west coast of Africa, and have been thoroughly naturalized in many localities in the southern portions of the United States. They were imported into New Orleans during the last quarter of the eighteenth century, and have existed in the soil or atmosphere of that place ever since, either in a latent or in an active condition. They may lie dormant for many years consecutively, and they require a concurrence of causes to develop them into a state of disease-producing activity.

“Some of the factors which seem to be favorable to the excitation of the yellow fever germ are the following:

“Low, swampy ground near the level of a tropical sea.

“Long continuance of very high temperature, following heavy rains.

“Long continuance of south and east winds.

“Aggregations of human beings with the excreta of their bodies in small spaces. A crowded and dirty ship may be a nidus for yellow fever, as well as a crowded and dirty city.

“Long continuance of calm weather, unbroken by thunderstorms.

“Exposure of decaying vegetable and animal matter to a burning sun.

“Inefficient drainage and the general accumulation of filth, especially the city garbage.

“Deficiency of ozone in the atmosphere.

“Pestilential exhalations from an upturned soil.

“When the yellow fever germ has been waked into activity by these causes, it may be transported to places where none of them exist. It seems that a certain concurrence of several of the above factors is necessary to the generation of yellow fever. There is probably one combination in one epidemic, and a somewhat different combination in the next epidemic. An epidemic may be mild or severe, according to the number and force of the concurring causes. There may also be other unknown, but discoverable factors, which may be necessary at one time to produce an epidemic, and not necessary another. No one of the above suggested causes could excite an epidemic by itself, and it is not probable that they all ever concurred equally to the formation of the disease. The most extensive collections and comparison of facts are necessary to illumine the very great darkness which lies upon these complex questions.

“The naturalized yellow fever germs may receive so slight a stimulus as to produce only a few sporadic cases. Or they may be vitalized in certain localities to such a degree as to occasion quite an outbreak in these localities, not easily communicated to other quarters. Or, thirdly, the disseminated germs may be vivified in all directions, and a general epidemic excited. Or, lastly, the naturalized germs may lie entirely quiescent, until fresh and active germs are brought in from foreign ports, which then act as sparks to ignite the inflammable material already existing. We thus have four shades or degrees of yellow fever visitation: sporadic cases, local and limited outbursts, epidemics from naturalized germs, and epidemics from importation.”

Yellow fever seldom prevails far from the sea or navigable river. The weight of medical opinion is, in view of the fact that the disease is limited to certain localities, that the disease is infectious but not contagious. The Third National Quarantine and Sanitary Convention gave opinion that personal quarantine might be safely abolished, provided that fomites of every kind be rigidly restricted.

Diagnosis.—The symptoms particularly belonging to yellow fever and which serve to distinguish it from other diseases, and particularly from remittent fever, are the severe frontal headache, the white creamy appearance of the tongue, the watery and suffused eye, the early appearance of albumen in the urine, the yellow hue of the skin, and the black vomit. The symptoms, taken together with the infectiousness of the disease, serve to distinguish yellow fever from other maladies.

Prognosis.—The rate of mortality varies widely in different epidemics. In the yellow fever epidemic in New Orleans, in 1878, the death rate was twenty-one and four-fifths per cent; in Memphis, the same year, the death rate was thirty-three per cent; in Grenada, thirty-five per cent; in Holly Springs, twenty-seven per cent; in Baton Rouge, six per cent.

It is difficult to form a reliable prognosis in any case or any stage of yellow fever, for the most unpromising cases may recover, and those which seem to the physician to afford the most hope of recovery, may confound his judgment and dispel his hopes by a speedy dissolution. In general, however, there are symptoms which indicate recovery or a fatal termination.

The favorable signs are: A pulse less than 110 at the height of the febrile stage, and even and normal when the third stage sets in; little or no albumen in the urine, and absence of any signs of disorganization in the kidneys; subsidence of gastric distress, and irritability at the end of the febrile stage.

Unfavorable symptoms.—Dr. Jackson, in his treatise on yellow fever gives the following symptoms as indicating danger.

"1. Sudden invasion of the fever with intense pain of the head and eyeballs, accompanied by nausea and vomiting.

"2. Fever ushered in by violent delirium, convulsions or coma.

"3. Hiccough.

"4. Ghastly appearance with faint nauseous odor from the body.

"5. Yellowness of the skin, with turgid veins on the conjunctiva in the latter stage.

"6. Torpor and insensibility of the skin.

"7. Petechiæ and streaks or patches of livid green or violet color.

"8. Vomiting of coffee grounds matter.

"9. Black watery shreddy stools.

"10. Widely dilated pupils, indicating cerebral complication.

"11. Suppression of urine."

Dr. Hardenstein, gives the comparative death rate under Homeopathic and Allopathic treatment, during the outbreak of the disease in 1882, in Vicksburg, Mississippi.

Rate under Homeopathic treatment, six and one-seventh per cent.

Rate of deaths under Allopathic treatment, seventeen per cent.

Treatment.—The remedies which have proved most efficient in treatment of yellow fever, by the Homeopathic physicians of the South, are *Aconite* and *Gelseminum* for the fever.

Ipecac, *Argentum nit.*, and *Cadmium* for the nausea and vomiting of the first stage. *Argentum nit.*, *Arsenicum*, and *Carbo. veg.*, for black vomit.

For the muscular pains, if excessive, *Bryonia* is the leading remedy.

Sleeplessness and restlessness indicate *Coffea*; delirium, *Belladonna* and *Hyoscyamus*; meningeal inflammation and convulsions, *Gelseminum*, *Veratrum viride*, and *Cuprum*.

Suppression of urine with symptoms of uræmia, call for the administration of *Apis* or *Opium*.

Hemorrhages call for *Hamamelis*, *Crotalus*, *Lachesis*, *Terebinthina*, and *Ergotine*.

I append to this article the treatment followed by Dr. Hardenstein, of Vicksburg, during the epidemic of 1878.

“To insure the lowest rate of mortality, and consequently, the highest degree of success, in the treatment of yellow fever, we require:

“*First.*—A proper regard for hygiene and as cleanly a location as possible. The room of a yellow fever patient must be well ventilated, and if not naturally so, it must at once be so arranged. The bed must be made comfortable for the reception of the patient. The mattress must be soft and springy, free from lumps or inequalities, yet I do not, by any means, wish a feather bed. In the first place, it would be too warm, and then again, there is no adaptability for a change of position. Place the bed, diagonally approachable from both sides, in a corner of the room, where there is no window or door. If this is not possible, close such doors or windows and keep them so. If there are cracks in them, from which a draft might fall upon the patient, stop them up. From the other doors and windows let there be a continuous current of air, so directing it that none will fall directly upon the patient. In the inception of the attack, change the linen of the patient, and the bed clothing, starting with everything clean, for no change can be made until after he is fully convalescent. This should be done at the start; but if neglected for two hours it is best not to do so. Have good, cold water at hand; if cistern water feels cold enough to the patient, it is all that is necessary; if not, let it be cooled by ice, but not too icy cold. Half a glass of water every twenty-

five minutes is not too often for the patient to have it. A foot bath is desirable in a great many cases, and creates a comfortable feeling in the patient. But if he strenuously object to it, and you think it will make him uncomfortable, do not use it. But it is a universal primary hygienic remedy, and the patient rarely, if ever, objects to it, so then administer it of hot water alone. *Give no purgative or emetic*, but to induce perspiration let the patient drink a cup of hot tea. Wait ten minutes, and if the perspiration does not start, let him or her drink a teacupful of ice cold water. Cover up warmly, yet lightly, to the neck, keep the hands and arms under cover, and a moisture will soon be apparent. Keep up this moisture, but do not sweat the patient. Let comfort ever be the ruling thought.

“Use black or orange leaf tea, prepared to suit the taste of the patient. There is a very important auxiliary to the supply of fresh air in the sick room. The fetid odors exhaled from the body can be neutralized, not by a disinfectant, offending the delicate nostrils of the patient, but a disinfectant, nevertheless. Common charcoal, in shallow vessels, placed in different parts of the room, under the bed, on chairs and tables, will absorb a great deal, if not all, of the poison that the diseased system throws off. It costs ten or fifteen cents a bushel, and is available in every community. Change it often, and the chances of infection for the exposed attendants is greatly lessened. On this point we have ample testimony from the series of letters published in another place. Do not stint the quantity; a bushel or two, in shallow boxes in a room, will not be in the way, and all that is required is to take it out of the room every morning and stir it up to change the position of the lumps, which should not be pulverized, only broken in lumps as large as a pigeon egg, thereby exposing the greatest possible amount of surface. Would that charcoal had been favored with as extensive a trial as carbolic acid, a substance whose only effect was to destroy—not yellow fever miasma—comfort, and perhaps life. A whole city can be disinfected with it at a cost of ten cents per capita. There is, however, another requisite for the successful treatment, and as hygiene is first, it stands

“*Second*—Conscientious, intelligent and educated nursing. We need in these epidemics, not only experienced physicians, but, above all, good, reliable nurses. Congress should endow institutions for the education of such, and we Homeopaths should be particularly careful that a fair share of them should

be taught in Homeopathic principles. If Congress cannot or will not act in this matter, each state should have an institution of this kind. They should be taught the principles of nursing in all diseases, especially in acute epidemic diseases. The schools should be connected with asylums, hospitals, and infirmaries, where the students can receive practical instruction and illustrations. After taking a full course a diploma should be issued to them. Men and women of this kind are needed—in fact, they are indispensable. To such, in epidemics, the best of wages would be paid, and it would really be cheaper labor to the public, for we could then dispense with the rabble of so-called nurses, who, too often, are the dregs of humanity, and unprincipled adventurers and rogues. If we had such nurses, how much time would be saved. They would know, without direction, how to keep the patient covered, how to administer the remedies, and prepare the nourishment, and thus save the physician hours of valuable time every day. On the nurse depends mainly the chances of recovery. How different it would be to see a skilled nurse gliding about the room, instead of a shuffling boor, who, even if well-meaning, cannot instil in the mind of the patient cheerfulness or confidence. There is no more difficult task on earth than waiting on a yellow fever case. A single fret, or irritable toss, may weigh down the balance of life. Cheerfulness in the sick room is a remedy that must be constantly kept up. The perceptions of patients are very keen, and a look is readily interpreted by them. If you betray your doubt of his recovery, or a look of yours implies you know he is in a dangerous state, it may frighten him to a fatal termination. If his condition warrants conversation, the nurse has it in his power to direct the patient's thoughts into pleasant channels. To practice deception is necessary sometimes, but if discovered by the patient it were better to have told the truth. How many instances were there, in 1878, when form after form was hurried away, and other sufferers kept in profound ignorance. In stricken families we would see the mother inquire after the daughter she missed from the bedside; and to tell her her child was well, when she was even then sleeping the long sleep, was a falsehood which was not recorded on high, and was the means, perhaps, of saving a life to be darkened, in convalescence, by the terrible reality. What agony did the mother suffer in deceiving one child in one room—in the other a little form in its shroud. In a great epidemic such scenes are so common that the horror is not noticed.

“First Stage—Erethic—Chill.—The chill may come on quite naturally, but at this time, although it may be a simple ague, if the symptoms of *Camphor* or *Veratrum* present themselves, they are the remedies. It is charged by the Allopathic school that Homeopathy does not treat diseases, that it is a practice of symptoms. Now the answer is this: By these symptoms we arrive at a true diagnosis, but it is sometimes very difficult to diagnose yellow fever *ab initio*. Must we wait until the patient is fairly under way before we give a dose of medicine? We treat the prevailing symptoms, letting further developments decide the nature of an attack. If it proves to be only a case of simple chill and fever, our treatment would be the same, if the symptoms were those of *Camphor* and *Veratrum*. But, when yellow fever is epidemic, remittent fevers verge into yellow fever, and there is rarely ever a mistake made. Now for the remedy when the patient is first attacked: *Camphor* and *Veratrum* present almost identical symptoms, but while *Camphor* has, particularly, *coldness of limbs*, *Veratrum* is indicated when the patient is *cold all over*. *Camphor* has the trembling *internally*; *Veratrum*, trembling and jerking of *external* parts.

“First Stage—Erethic—Fever.—When the fever comes on, which is immediately, generally, we find *Belladonna*, *Bryonia*, and *Aconite* to be the remedies indicated. The first two to compare are *Aconite* and *Belladonna*, but there are a great many diverging lines from the parallel of symptoms. In the pulse is a slight difference. In *Aconite*, the pulse is a full bounding pulse, not always so quick as *Belladonna*, which is an accelerated pulse, but also full, hard, and tense, large, or full and slow, and at times small and soft. Any practitioner of our school can instantly detect the pure *Aconite* pulse, but the lines are so close, it is hard to explain the difference. The *Belladonna* pulse is, however, clearly indicated in the throbbing of the carotid and temporal arteries, which is visible. The great difference is in the color of the face. Both have flushed faces, but while that of *Belladonna* is a *bright scarlet*, *Aconite* is indicated, clearly, when the face is *dark red* or *purplish red*. Besides, in *Belladonna* the body is warm, while the feet are cold, which is not the case in *Aconite*. *Aconite* was only useful a short time, under my observation. I would use it when indicated only five or six hours, following it with *Belladonna*, as the symptoms generally changed to that remedy. In the start I gave it or *Bella-*

donna every half hour or hour in dilution with water (a teaspoonful), gradually widening the interim of doses to two hours. If the temperature was not reduced, I did not drop the remedy, but continued it patiently. Sometimes the action of these remedies was marvelous, seeming to arrest the unfavorable symptoms and tide the patient safely over the different stages of convalescence. *Belladonna*, again, can be compared to *Bryonia*. *Belladonna* has the headache in the *front* of the head. *Bryonia* has the headache in the *back* of the head, extending to the neck and shoulders, particularly on the right side. *Belladonna* has oppressive pain in the neck when leaning back, with headache, while *Bryonia*, in presenting almost the same symptoms, is particularly indicated by plueritic and rheumatic pains in the chest, with or without cough. *Belladonna* is also suitable to the first symptoms of the meningeal form. *Bryonia* follows well after *Belladonna* when the latter does not check the pains in the back, or if the pains are decidedly rheumatic. Now, although we are giving *Belladonna*, *Bryonia*, or *Aconite*, we must watch for symptoms denoting other remedies. Nausea simple may come on, when it will be necessary to drop the remedy and give a few doses of *Ipecac*, returning to the remedy in hand when the trouble is past. If the nausea is accompanied by an uneasiness or burning pain in the pit of the stomach, *Arsenicum album* is to be given every half hour or hour, and if improving, every two hours. If the nausea still continues, and is not checked, either by *Ipecac* or *Arsenicum*, use *Cadmium sulph*. The effect of this remedy is worthy of especial notice. It is a remedy generally unused in our practice (never before in yellow fever), partly because there has been no extensive proving, and again, because its symptoms so nearly coincide with *Ipecac* and *Arsenicum*. These two well-known and proven remedies, in ordinary diseases, very rarely fail in their action, but in yellow fever my experience of 1878 has taught me to rely more upon *Cadmium*. Where I have used it, I do not think I have had to record a single failure in its action, when the peculiar symptoms have manifested themselves. I do not know of any proving in English. Mine is in the German of Hirschel, but it is a remedy that should now be fully proven, as it has shown itself to be prompt in action in 1878, although I do not remember when I have used it before. But, in the experience of all physicians, long disused remedies are sometimes resurrected and used with the most happy results. During this stage (the

fever), lasting from 24 to 36, 48 hours (and even as long as 96, as in the case of my son) the physician must be on the *qui vive* for unfavorable or grave symptoms. Further on is a list of phases of the disease—hardly called symptoms—with the time opposite when they are most *likely* to occur; and a glance at them is of great help to an inexperienced physician, perhaps causing him to avoid a surprise.

“Local Measures.—We use no leeches, do not practice blood-letting, blistering, or putting the patient in an ice-box. All this, to say the least, is needless cruelty. Certainly the patient needs all the vitality he has in his system, and cupping may give a moment’s relief, but it is prostrating. Nor do we buoy the patient up with quantities of liquor, for a patient on stimulants has no real strength. But we use outside measures, especially in the grave symptoms of black vomit, or after the vomit has occurred.

“During nausea, put ice cold cloths on the stomach and at the throat. If black vomit is imminent, make two mush poultices quickly, cool them, spread on a cloth, and sprinkle powdered willow charcoal thickly. Place a muslin cloth over this, and put on a block of ice. Place the charcoal side next to the stomach, and change, when warm, to the other one, which is to be kept on ice—always the charcoal side next to the stomach.

“I do not like the practice of putting ice cloths on the head of the patient during a burning fever. It has a tendency to check perspiration, which is so essential.

“When the pulse sinks, and the patient is very weak, give a teaspoonful of very weak brandy toddy every half hour. Two teaspoonsful of brandy in half a glass of water, is strong enough to produce exhilaration. In the progress of the disease, it is also requisite in extreme debility and exhaustion. The idea is not to use it, except in cases of necessity, for if the patient is constantly under the influence, in a pinch its action fails. When entirely convalescent, it is good to help build up the body and strength, when taken in moderation.

“Second Stage—Synochal—Fever.—This stage is really a continuance or full development of the disease. In it are manifested or developed most of the grave phases of the attack.

“The physician cannot be too careful and circumspect, in watching all symptoms. Do not be deceived by an apparent improvement. The patient who is doing well in the morning may perhaps be dead in a few hours, too often by an act of

imprudence of the nurse or the sufferer himself. With what feelings of pain does the physician behold the work of a direct draft of air, or, in convalescence, a too hearty meal, on a stomach that has to be gradually accustomed to food. I have seen the tippler, fully recovered from his attack, after three or four days exercise in open air, die in two hours from the effect of a glass of whisky, which a craving appetite could not resist. But nourishment is life to the yellow fever patient, and *from the first* I nourish the case. A cup of tea, while the fever is on, toast in the smallest quantity, dry and browned through, should be given to the patient if relished, three times a day. Tea according to taste. Consult, as far as possible, persons' tastes, and give nothing that is not relished, or which disagrees with them. Gently humor them, if reasonable; always cheer them up. When the fever has left, make chicken broth (beef tea is better if they like it), and give them, in addition to their regular allowance of toast and tea, a tea-spoonful or two every two and a half or three hours, gradually increasing the amount. As they surely convalesce, make food of corn-starch, rice, tapioca, etc. Let them chew a piece of steak or chicken and swallow only the juice. According to the attack, dress them in ten or fifteen days, never under ten, and let them stay in a room a day or two. *Not too much exercise.*

"In no case let them eat ordinary food for five or six days after getting up. Use your discretion, and do not be guided by their desires. Do not starve them; only accustom a very weak stomach to its usual functions in digesting ordinary food.

"Neaves' infant food is very valuable, being very nutritious and palatable. It can be ordered by any Homeopathic pharmacist. It was fully tried in English hospitals, and comes across the water highly recommended. For a yellow fever patient I have found its use invaluable.

"*Third Stage—Torpid—Collapse.*—When the fever has run its course, there is a marked change in the patient's condition. If the case has dragged its length along without any unfavorable symptoms, we should not be too sanguine, for the patient is not yet out of danger. Even if he has not been attacked with nausea, cerebral symptoms, etc., a decided reaction takes place. The pulse, heretofore at or above the standard, rapidly sinks and we find a treatment necessary for this stage. The old school rely now on stimulants, and to use their own expression, try to "pull him through" by

heroic doses of brandy or champagne. While I do not condemn their use, I will simply state that in 1878 I did not order two dozen bottles of both together, finding our remedies gave all the strength required, in assisting nature. In convalescence, a little stimulant is necessary; but by this time they have long passed from the hands of the physician and require nothing but prudent diet and exercise for a few days to enable them to regain their natural vigor. Then liquor is good, and I would avoid its use until that time. But what does the Homeopath do, when after perhaps forty-eight hours of fever the pulse sinks and the patient is on the sure road to collapse? There comes our grand remedy *Carbo vegetabilis*. I have seen the pulse go down to the lowest ebb and under the effects of the medicine creep up stronger and stronger until the standard was attained. The fever may pass off without any symptom of danger presenting itself, and then the trouble may begin. Black vomit symptoms, pervigilium, singultus, nausea, emesis, insomnia, hemorrhage, anuria and dysuria even may present themselves, and suddenly our seemingly safe patient is on the brink of eternity. The least imprudence of nurse or patient may consign the sufferer to the grave. At this time the patient is generally free from all pain, and this fact works against him, causing him to go beyond his strength. He may want too much to eat, or perhaps will stubbornly persist in rising from his bed. Many lives have been lost this way, and many could have been saved by the firmness of a well trained and fully educated nurse. It is hard for a physician to dismiss a patient from treatment, and find that two days after he has killed himself by yielding to the enormous appetite of a convalescent. Yet this has been my experience. It is hard to think of a patient on his eighth day changing his clothing and bedding, walking around a room and then dying in twelve hours from a relapse brought on by his own imprudence, after receiving the strictest cautions from me, yet I have known this in 1878. These are cases which have occurred, when during the fever they had passed with safety over the various stages to convalescence. In this, the third stage, when the physician has been battling with a stubborn case and fighting the battle of life for the patient, after all he may be saved, even after reaching collapse. Do not despair, he may yet survive, but if he die, remember he is one only of the number to swell our small death roll, which every locality and every epidemic shows to be larger on the side of the old school. To those who have never combated

the dreaded disease, the following table of symptoms may be found useful. Others besides physicians will read this book, so I have expressed in plain language all the information it is intended to convey:

“TABLE OF SYMPTOMS.

“*Pervigilium* (restlessness, sleeplessness).—An unfavorable symptom occurring, generally, toward the end of the synochal stage, and in the torpid. Though it may not occur in the early part of the attack, the patient may roll and pitch about even while asleep; but this is little better than insomnia, as the apparent slumber is too often an unnatural torpor of the fever. *Aconite* and *Belladonna* (if occurring while the patient is under their influence) cover this symptom, if in an ordinary form; but if very marked it should be looked after with the following remedies: If the mind is very much excited, *Coffea cruda* is the remedy. If with delirium, *Opium* is beneficial. Tossing about, *Arsenicum album*. Constant tossing about, *Aconite*. Excessive nervous irritation, *Moschus*. During convalescence, *Calcarea carb.* and *Sepia*. If caused by pain in the bones, *Daphne indica*.

“*Singultus*.—A grave symptom in yellow fever, occurring generally toward the end of the synochal and in the torpid stage. It must be promptly treated. *Arsenicum album* stands at the head, as so many other symptoms at this time point to it. *Belladonna* also covers it.

“*Eructation*.—A minor symptom, indicative of gastric trouble. It is covered by almost all remedies used in the stage in which it occurs. But if a particularly acid fluid is belched up, scratching or burning the throat, give *Lobelia inflata*.

“*Nausea*.—Simple nausea commences, generally, in the first or erethic stage. In the end of the synochal and in the torpid it assumes a graver form, being accompanied by burning pains. Simple nausea, if continued, rapidly throws the patient into a dangerous state, and should be very promptly treated with intermediate remedies. *Ipecac* generally checks the simple form. If it does not, look at *Arsenicum*, *Cadmium sulph.*, and *Carbo vegetabilis*. *Carbo vegetabilis* is indicated by frequent empty eructations, pinching in abdomen, sour, rancid pyrosis. If pyrosis is very severe, and *Carbo vegetabilis* does not help, use *Lobelia inflata*.

“*Insomnia* (sleeplessness).—See *Pervigilium*, which covers all this.

“*Meningeal symptoms*.—These dangerous symptoms occur,

generally, in the synochal and torpid stages, and sometimes in the erethic. *Belladonna* stands at the head. *Bryonia*, when with constant sopor and delirium there is starting from sleep, particularly suitable after *Belladonna* and *Argentum nitric.* *Argentum nitric.*: violent headache with vertigo, sharp pains from back of head to the front, head thrown back. If there are petechial spots or hemorrhages, at an early stage, stinging pains and pulsations from back of head to front, small pupils, or symptoms of pneumonia, give *Phosphorus*. *Argentum* runs nearly parallel with *Phosphorus*, but has not the petechial spots. *Tartar emetic*, when with drowsiness, stupid headache, and twitchings there is cold sweat with pain. *Veratrum album* is indicated by headache with delirium or unconsciousness, vomiting, with cold and pale face, accompanied by stiffness of neck, rolling the head from side to side in the pillows, short screams. Raising the head causes convulsions and vomiting or collapse with intense congestion.

Anuria (suppression of urine).—This grave symptom occurs from the synochal to the torpid stage. *Belladonna*, which is generally the remedy in hand when the symptom manifests itself, usually covers it. The symptoms of *Stramonium* are that the kidneys secrete little or no urine, and I found its use in one case to be desirable. *Opium* when drowsy and stupid. There is so little trouble in the Homeopathic practice, from this symptom, that I seldom found use for outside remedies, as most of the remedies given at the time of suppression cover the symptom. *Plumbum* has difficult emission of urine, mixed with blood, paralysis of bladder and suppression.

Dysuria (retention of urine).—This is not so grave as suppression, and is generally relieved by *Parsley tea*, *Watermelon-seed tea*, a drop of *Turpentine* on a lump of *Sugar*—old common sense remedies, not allied to any practice, and which nurses administered often without my orders. But the effect was always good, and I never forbid them. Warm cloths on the abdomen, over the region of the bladder, are very beneficial. *Cantharis* and *Nux vomica* are the remedies for dysuria. *Opium* is particularly indicated when lying in a sopor and snoring.

Hemorrhage.—This grave symptom manifests itself during the synochal, the torpid or collapse stages. If the bleeding is principally from the mouth or gums, and the blood coagulates like healthy blood, *Hamamelis* is the primary remedy. If the blood does not coagulate, look then to *Lachesis* and *Crotalus*."

RELAPSING FEVER.

(*Synonyms*, FIVE-DAY FEVER, SHORT-DAY FEVER, FAMINE FEVER, HUNGERPEST.)

Relapsing fever is a form of continued fever, rarely appearing except as an epidemic, and characterized by sudden remissions followed by relapse, the relapse, in most cases, ending in a few days in convalescence. Not seldom a second relapse occurs, and, occasionally, a third and fourth.

It is regarded as contagious by nearly all observers. Dr. Wardell, who studied the disease in the Edinburgh Royal Infirmary in 1844, says: "Most of the medical officers connected with the Infirmary and additional fever hospitals were seized with it. Eight of the resident and clinical clerks in quick succession became affected, and, out of that number, no less than six were yellow cases, and thus, obviously, in danger of their lives. The majority of the nurses and domestics took the disease, and of the former, at one time, no less than nineteen were laboring under it. Some of the dispensing physicians and other practitioners took the disease, and, also, several of the clergy and visitors of the sick, whose duties brought them to the bedside of the patients."

Dr. Cornack also gave testimony to its contagiousness. "The disease," he remarks, "is contagious. Of this we have sufficient evidence in the fact that almost all the clerks and others exposed to the contagion have been seized."

Dr. Flint says: "Relapsing fever is undoubtedly communicable from the sick to the well. This statement rests on facts derived from the different sources of evidence, exclusive of inoculation, which establish the contagiousness of other diseases. The disease is diffused in hospitals among fellow patients and those who have charge of the sick."

"During the period in which cases were received in Bellevue Hospital, after the disease began to prevail in this city; namely, between November 14, 1869, and February 6, 1870, twelve persons contracted the fever in the hospital. These twelve persons were especially brought into contact with patients affected with the disease, and in no instance did it attack one who had not been thus exposed. It is not, however, considered a highly contagious disease, and considerable exposure is necessary to contract it."

Symptoms.—Suddenness of invasion characterizes the disease. There are no premonitory symptoms. The patient is suddenly taken with a chill, speedily followed by fever. The

chill is accompanied by headache, pain in the back, and prostration. The fever gradually increases in intensity, the temperature rising from 103° to 105° , while the pulse ranges from 100 to 140 beats per minute, the muscular pains and headache increasing in severity in the same degree. Perspiration, general over the whole body, occurs in a majority of cases on the second or third day, but is not followed by any amelioration of the headache or other symptoms. Nausea and vomiting frequently take place, and are sometimes obstinate and persistent. The matter vomited is green from the presence of bile. In very severe cases vomiting of blood termed "black vomit" has been observed, but this event is very rare. The tongue is usually, at the commencement, coated with a white or yellowish fur, with a triangular spot at the tip clean and red. In mild cases it is moist, but in the more serious it is usually dry, brown, and covered with sordes.

The bowels are generally constipated. The abdomen is frequently tympanitic and tender to the touch, especially in the iliac region and over the liver and spleen. In a considerable proportion of cases a yellow color of the skin is noticeable, particularly in the face, followed by a distinct jaundice, with vomiting of *coffee grounds* substance, somewhat resembling the black vomit of yellow fever, from which the disease derives one of its appellations—"mild yellow fever."

The fever attains its greatest height about the fourth day, and the duration of the primary paroxysm is from five to seven days. Then there comes a sudden and abrupt cessation of all the symptoms. The change from a condition of high fever to almost complete apyrexia takes place in a few hours. The temperature and pulse fall to nearly the normal standard, and, in some cases, below; the pulse dropping to as low as 55, and the temperature to 95° . The fall in the pulse and temperature only lasts a day or two, when again they rise to the normal condition.

The period of intermission lasts about seven days, during which time the appetite is good and the patient feels about as well as in health, although somewhat weak, except that some muscular pains continue. The relapse occurs with the same suddenness as the primary attack, with a repetition of all the former symptoms. It generally begins with chilly sensations, but not with a pronounced chill. The fever becomes again intense, and may exceed in severity that of the first paroxysm, but usually it is less severe. In three or four

days profuse perspiration sets in, and is followed by complete relief. In some cases the relapse lasts but a day, in others it may be prolonged to nine or ten days.

A second, third, fourth, and, rarely, a fifth relapse have been observed. It is, however, seldom that more than one relapse takes place. Complications are rarely observed in relapsing fever.

Convalescence is sometimes tardy. The debility remaining is often considerable, and delays recovery.

The disease is sometimes followed by troublesome sequelæ; such as muscular debility, rheumatic pains in the limbs and joints, bronchial catarrh, swelling of lymphatic glands, and a peculiar kind of ophthalmia.

One peculiarity of the disease deserves special mention. When it occurs in pregnant women it almost invariably leads to abortion and the death of the fœtus.

Causation.—From the significant names given to the disease; namely, famine fever, and hungerpest, it seems that it prevails among the poorly fed classes of society, and that destitution, exposure, deprivation, deficient food, are powerful predisposing causes.

As remarked before, it is contagious, though not highly so, and a special miasm is probably the exciting cause. The miasm is more likely to be diffused in the crowded wards of a hospital, or in damp, ill-ventilated, overcrowded tenements of a city, than in well lighted and ventilated houses. The period of incubation is from five to nine days.

Diagnosis.—Whatever difficulty is experienced in the diagnosis of relapsing fever is during the primary fever, for after the intermission and relapse the distinguishing points are sufficiently well marked to establish the character of the disease. During the first paroxysm it has features in common with simple, remittent, typhoid, typhus, and yellow fever. The diagnostic points of relapsing fever are: the sudden invasion and rapid increase of the fever, the abundant perspiration on the third and fourth day, the muscular and arthritic pains, the intermission, followed by relapse with recurrence of all the former symptoms. Relapsing fever is more liable to be confounded with simple continued fever than with any other disease, but the latter is not characterized by such a high temperature and pulse, nor by severe muscular pains. Remittent fever is excluded by the absence of remissions, and typhus and typhoid by the absence of the eruption and mental conditions pertaining to these fevers.

Prognosis.—The prognosis is favorable. The rate of mortality is small, varying from two to four per cent. Death, in fatal cases, is generally attributable to complications; such as pneumonia, broncho-pneumonia, pleurisy, and dysentery. Occasionally uræmic convulsions from imperfect elimination of urea are observed, causing death by coma. Sudden and fatal syncope has been noticed in a few instances.

Pathological anatomy.—No constant and invariable morbid appearance is to be detected. The spleen is generally found to be enlarged and softened. When jaundice has been present, enlargement and congestion of the liver is observable. Dr. Oberheimer, of Berlin, found in the blood minute, moving, filiform organisms, called spirilla.

Treatment.—As the disease chiefly originates among the poor, particularly those who are poorly nourished, it will be understood that the best way to arrest the progress of the disease is to supply sufficient food to those exposed to the disease; and, as the fever is contagious, patients should be isolated and the premises thoroughly disinfected.

The remedies are: *Gelseminum*, *Bryonia*, *Rhus*, *Cinchona*, *Phosphorus*, *Mercurius*, *Arsenicum*, and *Apis*.

GELSEMINUM is indicated in the first stage of invasion; high fever; muscular pains. It should also be given during the relapse.

BRYONIA may be given alone during the apyrexia, or in alternation with *Gelseminum* if the muscular pains are very severe.

RHUS is indicated if the symptoms assume a typhoid type; as, brown and dry tongue, sordes on the teeth, diarrhoea, tympanitic abdomen.

MERCURIUS is indicated if symptoms of jaundice appear.

ARSENICUM.—For vomiting of coffee colored substance.

IPECAC.—If nausea and vomiting of ingesta are present.

CINCHONA may be given if convalescence is delayed, and attended with debility and prostration.

For the complications and sequelæ; such as bronchitis, pleuritis, pneumonia, and ophthalmia, such remedies as *Bryonia*, *Aconite*, *Phosphorus*, and *Apis* are indicated. During the apyrexia and convalescence a nourishing diet should be given.

CHAPTER III.

MALARIAL FEVERS.

INTERMITTENT FEVER—PATHOLOGICAL ANATOMY—SYMPTOMS—LATENT INTERMITTENT—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. PERNICIOUS INTERMITTENT—SYMPTOMS—TREATMENT. MALARIAL CACHEXIA. REMITTENT FEVER—DEFINITION—SYMPTOMS—DIAGNOSIS—PROGNOSIS—TREATMENT.

THE term malarial fevers is applied to a class of febrile diseases characterized by well marked periodicity and which are induced by the absorption of a miasm recognized as malaria. The poison which causes these fevers is believed to be produced by the decomposition of vegetable matter, although thus far its exact nature has eluded the search of the most skilled chemists and microscopists.

It is most abundant and potent in marshy lands which abound in organic matter, in hot countries which are low and moist, at the bases of great mountain ranges, and in river valleys subject to frequent inundations. The miasm is carried by winds to considerable distances from its source, and ascends heights along ravines or in the direction of the prevailing winds. Malarial fevers are also developed in places where they had not previously appeared, by any great disturbance of the soil, even in dry, sandy tracts destitute of vegetation. This is notably the case on the Western prairies, where the exposure of the soil which had been undisturbed for ages, to the sun and air, is a fruitful source of malarial fevers.

Drainage, continued cultivation of the soil, and the absence of decomposing vegetable matter decrease the elimination of malaria so that many districts once subject to its deleterious influence are now comparatively free from its effects.

It has been frequently noticed as one of the results of long continued exposure to malaria that all diseases assume a certain periodicity and that this tendency is seldom eradicated.

INTERMITTENT FEVER.

The periodical are distinguished from the continued fevers by the occurrence of febrile paroxysms or marked exacerbations in a regular order, showing a law of periodicity. This distinction more especially applies to the fevers called intermittent and remittent. Yellow fever, very properly, is also called a periodical fever. The intermittent and remittent fevers are often called the *malarial fevers*. They differ from other fevers not only in clinical history but also as regards their causation, duration, complications, and sequelæ. An *intermittent* fever is characterized by febrile paroxysms in regular succession and by the absence of febrile movement between the paroxysms. This disease has many popular names; as "fever and ague," "chill-fever," "the shakes," "swamp fever," etc.

Ordinarily, intermittent fever is unattended with danger to life, but occasionally it is one of the most dangerous of diseases.

I shall treat of the ordinary form first, then of the grave form of the disease under the head of *pernicious intermittent fever*.

Pathological anatomy.—Bronzing of the liver, spleen, and brain, which is found after death in both the mild and grave forms of this disease, and after remittent fever, together with the presence of dark pigment in the blood; (*melanæmia*) softening and enlargement of the spleen and congestion of the liver are the only known lesions characteristic of intermittent fever, and may be supposed to exist to some extent in the mild forms which end in recovery.

Symptoms.—This will embrace an account, first, of the *paroxysm*, and second, of the *intermission*. In the majority of cases the attack is sudden. In some cases there are premonitions, which, however, are not very distinctive, such as pain in the head, yawnings, indisposition to exertion, loss of appetite and general malaise.

A paroxysm, when complete, consists of three stages; viz., the cold, the hot, and the sweating stage.

Cold stage.—This stage commences with a feeling of chilliness, beginning in the loins and extending over the back and limbs. The chill is more or less intense, in some cases consisting of cold sensations with shiverings, in other cases very severe. Muscular tremor, called rigor, may or may not be present. During the chill, bristling of the hairs over the

body, and "*goose-skin*" are frequently seen. Notwithstanding the *sensation* of cold during the chill, the thermometer in the *axilla* shows an *increase* of temperature, but applied to the extremities, it shows a *decrease* of temperature. During the rigor the teeth frequently chatter, and the movements of the body sometimes shake with violence the bed of the patient.

During this stage the patient sighs, the pulse, which is usually accelerated, is small and feeble, the lips and face are pale, and the roots of the nails are livid. The circulation is sometimes completely suspended in the fingers, which are waxy and insensible, and do not bleed if cut. Other symptoms are irritability, a feeling of oppression about the heart, pain in the head and limbs, and palpitation. The *duration* of this cold stage varies from a few moments to hours, the average being one-half to three-fourths of an hour. The transition to the hot stage may be abrupt or gradual; flushings of heat are felt, the feeling of coldness passes away, and febrile movement is developed.

The cold stage is sometimes wanting, and in some cases intense nervousness, gastralgia, incessant vomiting or hysterical coma are morbid conditions which take its place. *Real* coma is liable to occur in the pernicious intermittents. In young children we sometimes see convulsions during the cold stage.

Congestion of internal organs is of course evidenced by the deficiency of blood in the vessels of the surface, but the primary morbid condition underlies the congestion; it is probable that the congestion is due to the *contraction* or *spasm* of the peripheral vessels. That the congestion is not the *cause* of the hot and sweating stages, is shown by the fact that when the cold stage and the congestion are wanting, the other stages are as marked as when the cold stage occurs.

Hot stage.—This stage is characterized by more or less febrile movement; the skin becomes hot, the pulse quickened, full and bounding, the face flushed, and the cephalalgia continues. The thermometer in the axilla usually indicates 104 to 106 degrees.

Thirst is usually a prominent symptom. The *duration* of this stage is from three to eight hours. The spasm of the peripheral blood-vessels has ceased and they are abundantly dilated; whether this dilation is due to *paralysis* of the vessels, or to *increased attraction* of the tissues for blood we cannot say.

Sweating stage.—Perspiration now appears, first on the face; the fever abates and at length ceases, as do the heat of

the surface, the headache, the thirst, and the restlessness. The thermometer shows again the normal temperature, and frequently refreshing sleep is obtained. The duration of the sweating stage is variable, the average being from three to four hours. During and after the paroxysms urea, uric acid, and the chlorides in the urine are increased.

The *intermission*, called also the *apyrexia*, is the time between the paroxysms; the period from the beginning of one paroxysm to the beginning of another is called the *interval*, and the duration of the interval gives the name of the type of the disease. Each variety of type observes a law of periodicity in the succession of paroxysms, a wonderful fact among the pathological mysteries we cannot explain. There are three simple types of intermittent fever; viz., the *quotidian*, the *tertian*, and the *quartan*. In the quotidian type the paroxysm recurs every day, in the tertian every third day, in the quartan every fourth day. Usually the paroxysms are of about the same duration and intensity in the same person in any case, but different cases are very diverse. During some seasons the number of cases of the quotidian type will exceed those of the tertian; during other seasons the reverse will be the case, but in the aggregate there are more of the quotidian than of the tertian type; of 98,237 cases, 51,623 were of the quotidian type. Cases of the quartan type are rare; cases where the paroxysm recurs on the fifth, sixth, seventh, or eighth day, called *quintan*, *sextan*, *septan*, or *octan*, are very rare; still more rare are those, however, where the type changes from tertian to quotidian. Cases that are double quotidian, double tertian, and so on, are curiosities of no particular importance. The paroxysms of this disease recur at any time, though rarely at night, and are most likely to recur at the same hour. Cases of the quotidian or tertian type show the paroxysm intensest before noon; while the quartan seems to have no choice.

Paroxysms are said to be *anticipating* or *retarding* when the hour of recurrence varies in either of these ways, that is, coming by a regular interval earlier or later each day; this change indicates approaching recovery.

The condition of different patients during the *intermission* varies greatly; in some cases there is little to be seen except debility; appetite and digestion both being good; in other cases very marked debility, with marked impairment of digestion and other functions exists. "*Ague cake*" is the common term indicating enlargement of the spleen, which is one of the complications of this disease; this is by no means

frequent, occurring in some recent cases as well as those of long standing; the pathological connection of this enlargement is not positively known; some writers regard the spleen as furnishing a reservoir for the safe accumulation of the congested blood that flows to internal organs in the cold stage. The *malarious cachexia* often seen in this disease is denoted by pallor of the face and hands, and is sometimes associated with a yellow tint of the skin. Occasionally, as a combination of this disease, we find general dropsy, anasarca with effusion into serous cavities, but *not* indicating as usual cardiac or renal troubles. The *duration* of this disease is indefinite; it may end after a few paroxysms, it may continue months; the fact of the disease "wearing itself out" is by no means evidence that it will not recur again; on the contrary, the more speedily the paroxysms are interrupted by medicine, the more certain it is that a relapse will not occur.

In malarious districts all diseases partake more or less of a malarial character, and this does not imply a malarial *causation* for pneumonia, dysentery, etc., but that these affections are accompanied by malarial symptoms. We will also see cases of *neuralgia* that recur as regularly as do the paroxysms of intermittent fever, that yield to remedies for intermittent fever.

Latent Intermittent.—We sometimes meet persons complaining of impaired appetite, vomiting, general malaise, and whose tongues show a white thin coating. A careful examination will also show a periodicity in an increase of their unpleasant symptoms on successive or alternate days, and the thermometer will show an increase of temperature at these times. These are cases of *latent intermittent*, sometimes also called *dumb ague*.

Causation.—The cause of this disease is a something known as *malaria*. It is usually attributable to *vegetable decomposition*, but it not only occurs where there is no vegetable decomposition, but it very frequently does *not* occur where vegetable decomposition is most active. The following brief statements quoted from an eminent writer furnish about all we know as to the manifestations of malaria:

- "1st. It affects, by preference, low and moist localities.
- "2d. It is rarely developed in a temperature below 60°.
- "3d. Its active agency is checked by a temperature of 32°.
- "4th. It is most abundant and virulent as we near the equator and sea coast.
- "5th. Dense foliage accumulates it and stops its passage.

"6th. The wind can carry it as far as five miles.

"7th. Where entirely unknown it may be developed by excavations for cellars, railway tracks, or canal beds.

"8th. Bodies of water attract and absorb it.

"9th. Experience alone can decide as to its presence.

"10th. In proportion as malarial districts are cleared and settled, periodical fevers disappear, in many instances to be replaced by typhoid fever."

Malaria is of such specific gravity that it keeps near the earth, so that persons sleeping on the second floor will escape, while those sleeping on the ground floor will contract the disease. It is much more abundant in the night than during the day. Prof. Salisbury, of Cleveland, claims to have discovered that these fevers are caused by the introduction into the system of cells or spores emanating from certain plants called *Palmellæ* and which he names *Gemiasma*. He obtained these palmelloid cells by suspending plates of glass over night in malarious localities. Where there was no malaria, none of these cells were found on the glass in the morning.

He then examined microscopically the mucous secretions of persons living in malarial localities and those living where there was no malaria. In the former cases, the only constant bodies found were cells resembling strongly the cells of the palmellæ, while nothing of the kind was found in the mucous secretions of those not living in malarious localities.

Cakes of soil from a malarious locality were then taken to a non-malarious locality and placed on the window-sill of an open second-story room in which two young men slept; both of these young men had intermittent fever, one on the twelfth, the other on the fourteenth day. Eleven years have passed since this theory was made known, but as yet it is not generally recognized.

Diagnosis.—The diagnosis of this affection is, of course, simple in the majority of cases. Cases of latent and marked intermittent require more skill; the chill of phthisis, which, however, occurs usually in the afternoon, and the chill preceding the formation of pus in a deep-seated abscess might mislead for a time. Other symptoms indicative of tuberculous disease in the one case, the exposure to malarious influence, and the discovery of the abscess in the other case would prevent any mistake in diagnosis.

Prognosis.—Simple intermittent fever is not a fatal affection; the complications already mentioned, such as dropsy, anæmia, and the malarial cachexia may prove serious. This

disease also renders one predisposed to tuberculosis more liable to its occurrence. But the gravest danger in this disease is its association with other diseases, their combined attack proving fatal, and the danger of its assuming that very dangerous form, the *pernicious intermittent*.

Treatment.—Every one in and out of the profession is aware what the usual treatment of the milder forms of this disease is, namely the administration of some of the numerous extracts of *Cinchona*. Indeed in the large majority of cases each patient is his own doctor, either purchasing his *Quinine* or some one of its numerous analogues, or some nostrum advertised to speedily annihilate the ague, as the complaint is commonly called. If we are called to treat the disease, the chances are that the patient will tell us that he has already swallowed enough medicine to kill a horse. So universal is this custom of self-treatment, that I usually preface my examination with the inquiry, "What have you taken?" To all classes of physicians the disease very often proves obstinate and stubborn, returning again and again after being apparently cured or suppressed, or running on in its course unchecked, so the Homeopathist in despair often ends where his brethren of the other schools begin; namely, with the administration of *Quinine* and *Arsenic*, in the end to fare worse than if he had adhered to *Similia*.

The remedies to which I shall particularly call attention are, *Gelsemium*, *Veratrum viride*, *Bryonia*, *Cinchona*, *Cinchona sulphate*, *Ipecac*, *Nuxvomica*, *Arsenicum*, *Natrum muriaticum*, *Eupatorium*.

Remedies of secondary importance are *Apis*, *Aranea diadema*, *Antimonium crudum*, *Cactus*, *Canchalagua*, *Capsicum*, *Cedron*, *Cimex*, *Curare*, *Lachesis*, *Eucalyptus*, *Lobelia*, *Lycopodium*, *Pulsatilla*, and *Stramonium*.

Lilienthal gives a long list of additional remedies which may be useful in particular cases of intermittent fever.

Instead of giving indications for each medicine which in their similarity would tend to mislead the reader, I would suggest a careful study of the *Materia Medica* in abnormal types of the disease.

Of this number some few have had special advocates. I know one physician who claimed that he could cure every case of intermittent with *Cimex*. He gave a dose of the drug every ten minutes during the chill. Teste, in his *Materia Medica*, highly lauds the virtues of *Cedron* in the sixth dilution, saying that it will cure nearly every case. I got it many

years ago, but failed to cure any case with it. Some twenty years ago it was asserted that *Canchalagua* was a specific. I also tried this remedy with no favorable results. Wolf, in his monograph on *Apis* claims the same febrifuge powers for it. I did succeed with it in a few instances. Lately *Eucalyptus* has been thrust into notice by some of our pharmacies as a powerful febrifuge.

Our Materia Medicas contain many remedies in whose provings are symptoms simulating intermittent fever, and probably adapted to some cases of the disease. A careful comparison of each case with the pathogenesis of the remedy will aid materially in selecting the true simillimum.

But I would call attention more particularly to the remedies I first mentioned; namely, *Gelsemium*, *Veratrum viride*, *Arsenicum*, *Nux vomica*, *Ipecac*, *Natrum mur.*, *Bryonia*, *Cinchona*, *Cinchona sulphate*, and *Eupatorium*.

Of these I do not know that *Gelsemium* and *Veratrum* possess any special power against the malarial poison. The others do. I use *Gelsemium* and *Veratrum viride* during the paroxysms of chill and fever, the others during the apyrexia. With the inception of the chill I give GELSEMINUM every hour, and continue it until after the subsidence of the fever, and I think in many cases it materially shortens the paroxysm, and mitigates the severity of the fever and the accompanying headache and muscular pains. In cases where the malarial poisoning is not very severe it often suffices to effect a speedy cure.

VERATRUM VIRIDE, is better adapted to attacks in which the chill is very severe, with great prostration, livid color of the face, followed by high fever, full hard pulse, throbbing of the carotids and great vascular excitement; in short, attacks resembling pernicious or congestive fever.

CINCHONA is better adapted to quotidian fevers, with the following symptoms: the stages are distinctly marked; severe chill, with shaking; thirst before, but not during the chill; violent fever with headache, and feeling of fullness in the head; absence of thirst; usually pain in the back and limbs. After the fever, profuse and exhausting sweat, lasting several hours. The last symptom is a special indication for the use of this remedy. Give the third dilution once in two hours.

CINCHONA, is also indicated for intermittents occurring in anæmic and debilitated persons. The patient is easily tired, sweats readily, especially at night, and has a cachectic appearance, and a sallow, yellowish complexion.

CINCHONA SULPHATE.—Of all remedies this is the most frequently used in practice, both as a cure and as a prophylactic; in fact it is more used in general practice than any dozen other remedies. When used properly it is probably the most efficient remedy in acute cases of intermittent, but it is indiscriminately administered and often does more harm than good. I use it in the second and third decimal trituration, two grains at a dose. It is indicated in quotidians with short chill commencing usually in the afternoon, followed by severe fever with thirst, headache, dizziness, ringing in the ears, followed by moderate sweat, and during the apyrexia languor, bad taste in the mouth with feeling of tremulousness.

ARSENICUM.—*Arsenicum* is better adapted to cases of long standing or which have been repeatedly suppressed with *Quinine*. The attack generally comes on in the afternoon with short chill or simply chilly feelings, followed by long, severe heat, with great restlessness and thirst, not much perspiration following. Derangements of liver or enlarged spleen are additional indications for its use. It is better adapted to the tertian type. In chronic cases I have found it especially valuable, particularly in ill defined types of the disease.

NATRUM MURIATICUM.—Tertian intermittents, the successive paroxysms occurring at about the same hour of the day. The special indications are: the chill commences at 10 or 11 A. M., beginning in the lumbar region, with thirst, bursting headache, nausea and vomiting; fever with increased headache, which is often very severe; thirst; with the sweat there is marked relief from the headache and other pains. An additional indication for *Natrum mur.* is the appearance of vesicles upon the lips. During the apyrexia there is bitter taste in the mouth, loss of appetite and a general feeling of malaise.

EUPATORIUM PER.—The symptom particularly indicating this remedy is *vomiting* at the close of the *chill* and before the heat begins. Other symptoms are: intense aching in limbs and back as if the bones were broken; thirst before and during the chill; the chill begins in the back and spreads from thence; heat with red cheeks, throbbing headache; faintness on motion; sweat rather scanty. Double tertian with chill early in the morning of one day and about noon the following day. Third decimal dilution.

NUX VOMICA.—*Nux vomica* is indicated in anticipating intermittents in which the cold stage predominates. The paroxysm occurs in the morning or at irregular hours.

Symptoms during chill are: absence of thirst, coldness increased by motion and by drinking, hands and feet icy cold, blue nails, aching in the limbs; during the heat pressive frontal headache, thirst, desire to be covered, exposure being followed by *chilly sensations notwithstanding* the fever. The paroxysm is accompanied by a feeling of oppression and distress in the epigastrium. The sweat is moderate. During the apyrexia there is generally headache, furred tongue, bad taste in the mouth, and a feeling of languor and debility.

Nux vomica is especially indicated in tertians. I have used the two hundredth potency with marked success in long standing cases. In recent cases I prefer the second or third potency.

APIS.—Intermittents beginning about 3 p. m., chill commences in the back; hands feel as if dead; heat lasting about an hour but without thirst; heaviness and prostration after the fever subsides; sweat accompanied by trembling and faintness; after the sweat an *eruption* on the body *resembling urticaria*.

ANTIMONUM CRUDUM.—Tertians; short chill, followed by fever with pain at the epigastrium; predominance of gastric symptoms, tongue covered with thick white coating; nausea and occasional vomiting, bitter taste in the mouth, yellowish skin.

CACTUS.—Quotidian, the paroxysm of which begins every day at the same hour; slight chill at 1 p. m., then burning heat; *dyspnœa*, and pulsating pains in the abdomen, followed by slight perspiration; double quotidian, the paroxysms beginning at 11 a. m. and 11 p. m.; chill, with ice-cold hands, then burning fever, with severe headache, lancinating pains in cardiac region, dysentery; stupor followed by perspiration.

CANCHALAGUA is recommended by Linlenthal for spring intermittents; severe chill, rigors, paleness of the skin; skin looks as though thoroughly soaked in warm water; aching in head and fingers, great heat over the whole body; chill occurs at night while in bed.

CAPSICUM.—Chill occurring daily at 6 p. m., with shaking, chattering of the teeth, feeling of great coldness all over the body, thirst, anxiety, uneasiness, and intolerance of noise. The chill lasts from two to four hours, and is followed by heat over the whole body, burning in the face, hands, and feet, nausea, pressure in the epigastrium, perspiration toward morning; the chills predominate.

CEDRON.—*Cedron* is indicated in intermittents occurring *daily* at *precisely* the same hour; chill every afternoon, preceded by mental depression, dullness, and pressive headache, shivering of the whole body, coldness of the hands and feet, parched mouth, thirst, palpitation of the heart, hurried respiration, weak and rapid pulse. The chill lasts from one to two hours, and is followed by dry heat, full quick pulse, flushed countenance, lasting about two hours, and succeeded by copious perspiration. Intermittent, in which a severe paroxysm occurs one day and a weaker one the succeeding day, alternating in this manner several times. The remedy is adapted to intermittents in which the cerebral symptoms predominate; also, to pernicious fevers of warm, moist latitudes.

CURARE.—Quotidian intermittent, commencing at 2 or 3 P. M., and continuing well into the night; burning heat, accompanied by partial and transient chills, incoherent speech, great prostration, and partial paralysis of the limbs. Pernicious intermittent, with constant chilliness (Allen).

LACHESIS.—Intermittents occurring in the spring, and attended with a feeling of great languor and prostration. The paroxysm usually occurs in the afternoon. The chill commences in the back, and is relieved by warmth; violent pain in the limbs, stitches in the chest, oppression of the chest; the heat is attended by violent headache, great erethism, burning in the hands and feet, and great debility; profuse perspiration at night.

LOBELIA is useful in intermittents attended with much gastric irritability. There is a feeling of oppression at the epigastrium, *persistent distressing nausea*, but *inability* to vomit. The paroxysm is preceded by thirst. The cold stage lasts a long time, and is followed by moderate fever and sweat.

PULSATILLA.—*Absence* of *thirst* during all the stages of the paroxysm is a distinctive feature. The chill usually occurs in the evening, followed by fever and sweat, which last through the night; tongue coated white, bad taste in the mouth, loss of appetite; sallow countenance during the apyrexia; chill at 4 P. M., without thirst, with coldness of the face and hands, and anxiety and oppression of the chest; afterward drawing pains in the back, extending to the occiput, and thence into the temples and crown of the head; three hours afterward heat of the body, without thirst; skin burning hot, sweat *only* on the *face*, forming in large drops;

sleepiness, without being able to sleep; restlessness; the next morning sweat over the whole body. The characteristic symptom indicating *Pulsatilla* is one-sided sweat following the fever.

STRAMONIUM.—Double quotidian, the paroxysms occurring at noon and midnight. Rane states the indications to be: chill with icy cold skin, covered with cold sweat; hands and feet livid, head and face hot, vertigo, delirium, convulsive movements; the patient wants to be covered during all stages of the paroxysm.

PERNICIOUS INTERMITTENT FEVER.

A very severe type of intermittent fever is designated pernicious intermittent fever, or, popularly, congestive chills. It differs from the ordinary type of malarial fevers only in the degree of intensity and the greater fatality attending it. It is more prevalent in hot countries and in the low, swampy districts of the Southern states.

Congestive intermittent is little more than the cold stage of ague intensified and prolonged in consequence of debility and loss of reactive power in the patient.

Symptoms.—The patient is usually attacked with premonitions of ordinary intermittent, and may have one or more paroxysms of quotidian or tertian. He is more than usually languid, restless, and debilitated during the apyrexia. The disease then more clearly announces itself by a prolonged chill attended by great prostration and oppression. The skin is pale and shriveled, the features pinched and contracted; the lips and nose are livid; the tongue pale and flabby; the extremities are cold, insensible, and livid; the pulse is feeble, irregular, and rapid; rigors are not usually present; there is generally great thirst; the patient is restless and anxious, complains of oppression and difficult respiration; the skin grows colder and colder and is covered with a clammy perspiration; in some cases ecchymoses appear on the trunk and limbs. In other cases symptoms resembling Asiatic cholera appear. There is vomiting, and copious and frequent rice-water evacuations which rapidly exhaust the patient. Unless reaction occurs the prostration increases, the pulse becomes more and more feeble, finally ceases to beat, and the patient dies retaining consciousness to the last. In the majority of cases, however, the patient lapses into a state of coma, which may continue for several hours before death takes place.

In favorable cases there is a gradual amelioration of the

unfavorable symptoms. The skin becomes warm, the cold perspiration ceases; the pulse increases in strength and becomes regular, the extreme prostration is succeeded by a sense of returning vigor and the patient falls into a quiet sleep.

Prognosis.—The prognosis is grave. The first or second paroxysm may prove fatal, and the patient rarely survives the third. Favorable symptoms are: speedy reaction from the extreme prostration of the chill; warmth and natural color of the skin; full, regular pulse. Unfavorable indications are: imperfect reaction, feeble and irregular pulse, and sense of exhaustion. The patient with these symptoms is in great danger of a recurrence of the paroxysm. If the first paroxysm greatly endangers the patient's life, the second will probably prove fatal, hence not only the necessity of using every endeavor to carry the patient through an existing paroxysm but also to prevent, if possible, another.

Treatment.—Stimulants are generally necessary. The enfeebled heart's action, which is of course always present, demands their administration. They should be given cautiously, however, and are more especially useful in a second or third paroxysm than in the first. To promote reaction external warmth is useful. It may be applied by placing the patient a short time in a hot bath, or by placing hot bags of sand or salt around him. Frictions to the limbs are also beneficial.

The remedies which I have chiefly used are *Arsenicum*, *Camphor*, *Veratrum*, and *Cinchona sulphate*.

ARSENICUM.—*Arsenicum* is indicated in the following symptoms: icy coldness of the body, cold sweat, lividity of the lips and fingers, great anxiety and restlessness, debility and prostration, feeble, irregular pulse, excessive thirst. The remedy should be given in frequent doses until reaction commences, and afterwards at longer intervals.

CAMPHOR.—*Camphor* is useful in cases attended with extreme prostration, weak, almost imperceptible pulse, body covered with clammy perspiration, tendency to coma.

VERATRUM ALBA.—*Veratrum* is the remedy when the attack is followed by symptoms resembling Asiatic cholera. The body is icy cold, although the patient does not complain of being cold but prefers to lie uncovered; shriveled skin covered with cold sweat; pinched, contracted features; vomiting of thin fluid; rice-water discharges from the bowels; pulse small and thready; sighing respiration.

A dose of the third dec. del. should be given once in five minutes until reaction commences.

CINCHONA SULPHATE.—A two grain dose of the first decoction may be given once an hour during the apyrexia.

There is a form of intermittent to which I wish to call attention; namely, that which occurs in the spring and which, by some writers is called vernal intermittent or malarial fever. Generally it has been preceded the previous autumn by more or less severe attacks of remittent or intermittent fever, and the malarial poison has not been thoroughly eliminated from the system. Occasionally, however, the attack has not been preceded by any autumnal fever. We can account for this by supposing that the poison has been absorbed, but the vigor of the patient's constitution has prevented the development of the disease. In the spring, weakened by a severe cold, by exposure, overwork, or by some other cause, the patient feels the force of the latent influence in his system. Generally, the attack yields readily to appropriate medication, and the more easily as the specific cause of the disease is absent.

After repeated attacks of intermittent or a long residence in a malarial region, what is known as the malarial cachexia is extremely liable to be developed. The symptoms of this are: dirty gray or yellow discoloration of the skin; pale, furred tongue, flabby muscles, disagreeable taste in the mouth, weight and oppression at the epigastrium, constipation or diarrhoea, depression of spirits and lassitude. In severe cases, enlarged spleen, jaundice from derangement of the liver, and œdema of the extremities are present. Examination of the blood shows excess of white corpuscles and pigment granules, the last being supposed to be derived from the spleen; frequent congestions of that organ giving rise to disintegration of the blood globules. Dr. Meigs holds that the presence of this pigment is the cause of the frequent recurrence of intermittent in patients suffering from the malarial cachexia, the masses of pigment holding the poison in a dormant condition. Over exertion, debility, or excessive heat tend to set the poison free and actively at work again and thus bring on a fresh attack of the disorder. I give the hypothesis—for it is nothing more—for what it is worth. Modern pathologists hold that to the malarial cachexia may be attributed many cases of cirrhosis of the liver and Bright's disease of the kidney, especially that variety known as "the large white kidney." It is certain that these diseases, especially the latter, quite often follow repeated attacks of chronic intermittent fever.

The remedies chiefly demanded in the treatment of mala-

rial cachexia are *Arsenicum*, *Cinchona*, *Natrum mur.*, *Nux vomica*, and *Sulphur*.

REMITTENT FEVER.

Remittent fever differs from intermittent fever in that the former has remissions of intensity, while the latter shows a complete subsidence of the symptoms of the disease, leaving the patient comparatively well. This fever has a variety of designations, as bilious, bilious remittent, malarial; and the more severe forms are known as swamp, jungle, and African fever. Complicated with typhoid symptoms it has recently received the name of typho-malarial fever, although some writers say that for many years back they have been aware of this complication, and have described it under various names. This variety prevailed extensively during the war, and was called the Chickahominy or camp fever. As in intermittent fever, the pathological changes are in the liver, spleen, and blood. The spleen and liver are enlarged, softened, and darker in color than normal. The liver at times assumes a bronzed tint. In the typho-malarial type we have the additional marked changes characteristic of typhoid fever.

Symptoms.—The disease has usually a precursory stage; symptoms of gastric disturbance, giving evidence of the approaching disorder. The patient complains of languor, debility, loss of appetite, uneasiness at the epigastrium, and a feeling of oppression in the stomach. After a variable period of from twenty-four to thirty-six hours, the attack is ushered in by a chill of greater or less intensity. The chill of remittent fever is not so severe or long continued as that of intermittents, and occasionally it is so slight as scarcely to be noticed. The chill is followed by fever, lasting from six to fourteen hours, when it gradually subsides, but does not, as in intermittent, completely pass away. With the fever there is pain in the loins and limbs, and severe headache. The tongue is furred, and if the temperature rises to considerable height, becomes brown and dry. The temperature in the febrile stage ranges from 103 to 105 degrees, and in some attacks may occasionally rise to 108 degrees. The pulse, which during the chill is weak and slow, rises to 100 or 110, and is full and strong. The patient is restless, complains of great thirst, burning heat of the body, and anxiety. The urine is scanty and high colored, the bowels constipated in the majority of cases, in others loose, with profuse watery discharges. After a period of from six to fourteen hours the

severity of the symptoms relax. The fever and heat become less, the headache and muscular pains abate, a gentle perspiration breaks out, and for a period of several hours the patient obtains some rest.

The remission lasts from six to twelve hours, when again, but generally without a chill, there is a renewal of the symptoms, and often with increased intensity.

If the disease continues for any length of time the remissions cease to become marked in their character, and it assumes a continued type. In cases of greater severity there may be delirium and diarrhœa of a dark slimy appearance. When complicated with typhoid we may have, as additional symptoms, dark brown tongue, sordes on teeth, meteorism, diarrhœa of a yellow ochre color, low muttering delirium, subsultus tendinum, deafness, etc. The disease when it assumes this type is of a much longer duration than simple uncomplicated cases of remittent. I have noticed in this form that pulmonary and bronchial complications are often met with.

The duration of the disease varies widely—from two days to two weeks in simple form, and five or six weeks in complicated cases. Convalescence is speedily established in some cases and protracted in others.

The fever may terminate suddenly at the end of one or two paroxysms, or after a succession of paroxysms, each becoming lighter than the preceding one until recovery takes place, or the disease may pass into some one of the forms of intermittent or continued fever. Death is of rare occurrence, except in the more malignant varieties of the disease which prevail in hot latitudes.

In fatal cases the patient dies from exhaustion in consequence of the loss of vitality of the blood, from congestion of the lungs, from the supervening typhoid conditions, or from cerebral complications.

In the Northern states complications are seldom observed, but in the severer forms of the disease occurring in hot countries, jaundice, hemorrhage from the nose and bowels, and splenic enlargement are by no means infrequent.

Causation.—Remittent fever has the same causation as the other forms of malarial fevers. In typho-malarial fever the special miasm of typhoid is superadded to the malarial poison.

Diagnosis.—Remittent fever may be confounded with intermittent, typhoid, and yellow. From intermittent it is to be distinguished by the absence of the pyrexia so charac-

teristic of ague. The occurrence of the fever in paroxysms, the yellowness of the skin, the darker color of the stools in remittent fever, and on the other hand, the continued fever, absence of yellow tint to the skin, and the yellow ochre-like stools of typhoid, will serve to readily discriminate between the two affections.

Yellow fever has no regular periods of remission and in a large proportion of cases is attended with hemorrhage from the stomach.

Prognosis.—The prognosis is favorable, especially in northern latitudes. Recovery is the rule and death the exception. Favorable signs are cessation of gastric disturbance, diminished frequency and volume of pulse, decrease of temperature, decreasing violence of paroxysms, free perspiration followed by amelioration of all the symptoms. Unfavorable symptoms are, increasing temperature, increased frequency but diminished force of the pulse, exhausting diarrhœa, or hemorrhage from the bowels, delirium, coma, and extreme prostration.

Treatment—local treatment.—During the chill nothing should be done, but when the hot stage has set in, the excessive heat may be relieved by the use of cold or tepid water, either by effusion, by sponging, by wet sheets or by the bath.

I prefer sponging with water of a temperature most agreeable to the patient, bathing the head, face, and hands frequently, and once or twice during the paroxysms sponging the whole body. By this means the temperature and pulse are lowered, and the patient most agreeably soothed. I am confident that the paroxysms may be materially shortened, and made lighter by a judicious use of the sponge bath. The remedies are *Gelseminum*, *Belladonna*, *Ipecac*, *Ant. crud.*, *Bryonia*, *Baptisia*, *Merc. sol.* When complicated with typhoid symptoms, *Bryona*, *Rhus tox.*, *Baptisia*, *Hyoscyamus*, *Phosphoric acid*, and *Arsenicum*, are the principal remedies. In the latter case the general treatment will be the same as is necessary in typhoid fever.

GELSEMINUM.—I have found *Gelseminum* to be a very valuable remedy in simple remittent fever. I administer it in the first decimal dilution. I put twenty drops of this in half a tumbler of water, and give a teaspoonfull once an hour during the paroxysms, and less frequently during the remission. The indications for its use are, high fever, and temperature, severe headache, pains in the back of the neck, back,

and limbs, pain in the eyeballs when moving them, thirst, scanty high colored urine. A large proportion of cases will be speedily and effectually cured by *Gelseminum* alone.

BRYONIA may follow *Gelseminum* if the fever continues for several days. The indications for its use are, frontal headache, thirst, with desire for large draughts of water, brown tongue, dry heat, soreness, pain and aching in the muscles, worse from motion, stitching pains in the chest, constipation.

BELLADONNA is indicated if cerebral symptoms predominate. Violent frontal headache with great fullness and throbbing of the cerebral vessels, restlessness and delirium. It may be alternated with other indicated remedies.

IPECAC is indicated in gastric derangements, such as persistent nausea, bilious vomiting, feeling of weight and oppression in the epigastrium. Remittent fever often begins with gastric irritability, and in such cases *Ipecac* is the indicated remedy.

MERC. SOL is indicated if there is diarrhœa. The stools are dark brown, or are mixed with mucus. Sweat without amelioration of the fever and pain is also an indication for *Merc. sol.*

NUX VOMICA is useful in protracted convalescence with impaired appetite, tardy recovery of strength, together with symptoms of intermittent fever, manifested by chilliness and slight fever at regularly recurring intervals.

CINCHONA is indicated if recovery is tardy, or if there is debility, languor, fullness of the spleen, and night sweats.

BAPTISIA is indicated in typho-malarial fever, and will frequently arrest the disease at the outset. The special indications are: confusion of ideas, dull, pressive headache, dizziness; face flushed, dusky and hot; tongue brown or dark yellow in the center, red on the edges; frequent small, thin, dark stools; tired, bruised feeling in the limbs.

In general, typho-malarial fever, when fully developed, requires the same treatment as typhoid, somewhat modified by the predominance of the symptoms characteristic of malarial or typhoid fevers. *Baptisia*, *Rhus*, *Bryonia*, and *Hyoscyamus* are the principal remedies. During convalescence, *Artemisia* and *Cinchona* are frequently indicated.

CHAPTER IV.

ERUPTIVE FEVERS OR EXANTHEMATA.

VARIOLA, OR SMALL-POX—HISTORY—PATHOLOGICAL CHANGES—DEFINITION—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. VARIOLOID — VACCINATION — VARICELLA — SYMPTOMS—TREATMENT. SCARLET FEVER—PATHOLOGICAL CHANGES—SYMPTOMS—CAUSATION—DIAGNOSIS — PROGNOSIS — PROPHYLAXIS — TREATMENT — SEQUELÆ. ACUTE ALBUMINURIA, OR POST-SCARLATINAL DROPSY—SYMPTOMS—TREATMENT. MEASLES—DEFINITION—SYMPTOMS—DIAGNOSIS—PROGNOSIS — TREATMENT. ROSEOLA—DIAGNOSIS—TREATMENT. DENGUE —DEFINITION — SYMPTOMS — CAUSATION — DIAGNOSIS—PROGNOSIS—TREATMENT.

THERE is another class of fevers to which has been given the name of eruptive or exanthematous fevers. The chief of these are scarlatina, measles, and variola. Erysipelas is classed in the same category by some authors and not by others. The eruptive fevers have certain characteristics in common. First, a variable amount of time elapses between the inception of the poison and the development of the disease, which is called the period of incubation. They are usually ushered in by chills and accompanied by a fever which runs a determinate course. They are attended by an eruption which goes through a certain series of changes and which singularly varies in the different varieties of this class of diseases. They generally, though not invariably, affect an individual but once, and they are due to the influence of some special morbid product or miasm, which is generally subtle and long lasting.

There is a wide difference in the mortality attending the various exanthems, and in the mortality attending different epidemics of them. It will be remembered how extremely fatal and virulent were the epidemics of small-pox which raged in the large cities of this country and Europe, in the year 1875, I believe.

VARIOLA, OR SMALL-POX.

This is the most remarkable of the eruptive fevers. It is caused by the reception into the system of a specific poison, which apparently lying latent in the blood for about twelve

days, develops into this most singular malady. In its entire course it goes through four stages; incubation, primary fever, eruption, and secondary fever. Some authors only give three, uniting the stage of eruption and secondary fever in one. The first stage is from the time of exposure to the development of the disease; the second from development to the time of eruption; the third the period of eruption, while the fourth is variously regarded as the period of desiccation or desquamation, secondary fever, etc. Many complications and sequelæ may also arise during the progress of the malady which are not peculiar to any one stage of it.

Before the Christian Era nothing was known of small-pox. Some 1,400 years ago a writer described a pestilence which ravaged Asia Minor, which answers to the description of the disease. In the year 900 it was first clearly described by Rhazes, of Syria. From thence it traveled northward and westward into Europe. Before any means were known of mitigating its severity or of arresting its ravages, it was the most fatal, and the most dreaded of all known maladies. The certainty of infection, the loathsomeness of the disease, the great mortality attending it, and the disfigurement of the features almost certainly following severe cases, especially under the rude treatment of the times, excited fear and horror in those exposed to infection. So great was the dread that the sick were often left to suffer and die, alone and unattended.

The disease has no peculiar anatomical characters other than those which appear upon the surface of the body.

There are two varieties of the disease, but these pertain only to the severity of the attack. They are known under the names of confluent and discrete variola. In the former the pustules run together in masses, in the latter they remain single. A variety partaking of the nature of both is called semi-confluent.

The disease may be defined as a continued, infectious, and eruptive fever. From infection to development there is a period of about twelve days. The disease in a majority of cases begins with a well defined chill; in some cases with more than one, followed by fever and perspiration. The chill and fever is accompanied by headache, vomiting, tenderness in the epigastrium, pains in the limbs, but particularly by severe pains in the back and loins. In severe cases, retention of urine or paraplegia occurs, usually disappearing upon the appearance of the eruption. In children convulsions

sometimes occur during the febrile stage. The premonitory symptoms foreshadow the character and severity of the subsequent course of the disease. If the chill is slight, the fever light, the pains and nausea not severe, the eruption will probably prove to be of the discrete variety, but on the contrary if the chill be severe and repeated, the fever high, pains intense, marked gastric derangement, the temperature 104° or higher, then we may predict a corresponding degree of intensity in the eruption, which will probably be confluent. At the end of two days more or less, the characteristic eruption makes its appearance. This appears first on the face, next on the neck and wrists, then over the body, lastly on the legs, taking from one to three days to spread over the entire body. Sometimes the eruption begins with a rash somewhat resembling scarlatina, and sometimes it strongly resembles measles, and care must be exercised not to hastily pronounce the disease to be either of these. Occasionally in severe cases ecchymoses first make their appearance, and indicate extravasation of blood under the skin, and danger of hemorrhage in the future. The eruption peculiar to the disease consists of small red pimples. These pimples or papulæ are small, round, and hard, and feel like shot under the skin. This hardness distinguishes it from measles, the eruption of which it resembles. In from twenty-four to forty-eight hours a small vesicle appears on each papule filled with transparent lymph; the vesicle shows a central depression. Around the vesicle is an inflamed areola. These vesicles increase in size up to the fifth day from the development of the eruption, when they are from one-fourth to one-third of an inch in diameter, and each contain four or five cells. The *depressed* or *umbilicated appearance* of the vesicle is *pathognomonic* or characteristic of small-pox. I have described the appearance of the eruption in the discrete variety; in the confluent form the skin is covered with a diffused redness, and the vesicles run together sometimes forming blebs of considerable size; the whole face may resemble one large blister.

After the full development of the vesicles has occurred another important and characteristic change takes place. The vesicles change into pustules. The vesicles lose their central depression, and become turgid and hemispheroidal. Suppuration has occurred and the lymph has changed into purulent matter, yellow in color. A peculiar disagreeable odor is detected, which once experienced is like the sound of croup, never forgotten. One can almost with certainty diagnose the disease

from the odor alone. Thus we have in regular order maculæ, papulæ, vesiculæ, and pustulæ. In addition to the eruption on the skin, vesicles appear on the mucous membrane of the mouth and nose, and sometimes in the larynx and bronchial tubes, and on the prepuce, vulva, and conjunctiva. During the eruption up to the beginning of the suppurative stage, and particularly in the discrete form of the disease, there is a striking remission of the symptoms. The pulse decreases in frequency, the heat is but little above the normal standard, and the pains sensibly abate. In the confluent variety there is amelioration of the constitutional symptoms, but they are not so marked.

The purulent stage is particularly the period of danger. There is in this stage an increase of fever and temperature called the suppurative or secondary fever. In mild cases of variola discreta the fever continues three or four days, while in the severer forms and in confluent small-pox the pulse is rapid and temperature high for a longer period, being in direct proportion to the severity of the attack. In confluent small-pox there is swelling of the face, sufficient often to close the eyes, as in erysipelas. In very severe cases there is also swelling of the extremities. Salivation is often present together with swelling of the submaxillary and parotid glands. Delirium is occasionally present, sometimes active but oftener passive. Other typhoid symptoms may occur, as carpalgia, subsultus tendinum, stupor, etc. Sometimes there is dysphagia, cough, hoarseness, or dyspnoea, owing to the presence of pustules in the fauces and larynx. Suffocation occasionally occurs from closure of the rima glottidis. If to all of these symptoms malignancy and putrescency are added, we have malignant small-pox, or, as it was formerly called, the black pox.

The stage of suppuration reaches its height on about the twelfth day of the disease, or tenth of the eruption. The fever and heat subside, the swelling abates, a dark spot appears on the summit of the pustule, the skin covering it bursts, the matter oozes out and forms a scab. In the confluent type the scabs cover the whole face and appear in large patches on the body. It is now that the effluvium is most pungent and offensive. Finally the scabs fall off. In mild cases the skin is unbroken underneath, but a red discoloration is left which lasts a long time, and shows more clearly when the skin is exposed to the influence of cold. In some cases the skin under the pustules is ulcerated. The ulcers thus formed

leave, when healed, the scars which are called pitting, or pock-marks. The number of the pocks is dependent upon the severity of the disease. In addition to the regular order of symptoms detailed, various troublesome complications may arise, as swelling of the glands in the groin and axillæ, erysipelas, abscesses, pyæmia, gangrene, phlebitis, pneumonia, pleurisy, bronchitis, diarrhœa, conjunctivitis, ulceration of the cornea and otorrhœa, some of which may leave the patient blind, deaf, or lame, even if he escapes with his life.

In grave cases hemorrhage and hæmaturia may occur and indicate grave danger. Pregnant women abort or are prematurely delivered, the fœtus being usually dead. The occurrence of this accident adds materially to the danger of the patient. To recapitulate the duration of the various stages in conclusion: we find the stage of invasion to be from two to five days; eruption, five days; suppuration, four to five days; and desiccation from five to twelve days, making the duration of the disease vary from sixteen to twenty-seven days.

Causation.—The disease is both infectious and contagious, and highly so. It is claimed that it is the most subtle and lasting of all miasms. The bedding, clothing, carpets, etc., long retain the power of communicating the disease, hence the necessity of a thorough disinfection. It is also communicated by passing an infected person on the street, or passing through a railroad car in which infectious matter is present. It is also communicated from a dead body, and it is said that a body dead for a year or two may retain a virus potent enough to give the disease. The period when the miasm or poison is most active is probably during the stage of maturation and the beginning of dessication. Children are much more susceptible to contagion than adults, but all ages are liable to contract the disease. Some individuals are much more susceptible to it than others, and a few do not contract it though exposed and unprotected by vaccination. Such cases, are, however, rare. Small-pox *may* also occur twice in the same person.

Diagnosis.—It is highly important that this very contagious and dangerous malady should be early recognized in order the more effectually to guard against its further dissemination. Small-pox is liable to be confounded with measles, varicella, and less often with lichen and scarlet fever.

Measles is the disease bearing in its first stages the greatest resemblance to small-pox and for which it is most frequently mistaken. The points of distinction are: in measles

coryza, precedes the eruption, which occurs on the fourth day. The coryza, the date of the eruption, its crescentic appearance and the absence of the shotty feeling under the cuticle, are diagnostic points. The severe lumbar pains of variola, the earlier appearance of the eruption after invasion—the eruption usually occurring one day earlier in variola—the feeling as of small shot under the skin, are sufficiently diagnostic of the disease to readily distinguish it from measles.

Between variola and varicella there are several well marked differences. The fever of varicella is slight, that of variola usually severe. Lumbar pains are not present in varicella; in variola they are severe and characteristic. The eruption appears early in varicella and is not accompanied by the feeling of shot under the skin as in variola. The vesicles of varicella are not umbilicated, neither do they form well defined pustules. With no other diseases is small-pox liable to be confounded by an observing practitioner. Mistakes, however, are not infrequently made. Of the patients sent to Bellevue Small-pox Hospital in the years 1860, 1861, and 1862, forty-eight did not have small-pox, but measles, scarlet fever, and other diseases.

Prognosis.—Small-pox is a very fatal disease, especially in early childhood and in advanced life. Statistics show a mortality of about fifty per cent of patients under the age of one year, and of more than fifty per cent in patients past middle life.

In making a prognosis we should consider the age, the severity of the stage of invasion, the state of the eruption, the malignant or non-malignant nature of the attack, and the complications which ensue. Unfavorable conditions are: extensive and confluent pustulation, serious implication of the larynx and trachea; hemorrhages, great prostration, continued delirium, diarrhœa, and complications of pleurisy, pneumonia and bronchitis.

Pregnancy adds much to the danger, and even if the patient escape with life, abortion or premature birth is almost certain to ensue, with death of the fœtus.

Varioloid, or small-pox after vaccination. Varioloid or modified small-pox is the term used to designate a variety of small-pox which attacks individuals who have been vaccinated. For some years after the discovery of vaccination it was hoped that those who had had the vaccine disease would enjoy an absolute immunity from infection by small-pox, but the hope has not been realized.

Vaccination is not complete protection, but when it has

been well done, exposure to infection is seldom followed by a severe attack of small-pox; that is, the disease is so modified that it is attended with little danger to life or risk of deformity. If, however, vaccination is carelessly performed or with uncertain material, a severe attack of small-pox may follow exposure. In England and Germany, where vaccination is compulsory, a large proportion, or about eighty-five per cent, of the cases of small-pox occur after vaccination.

The rate of mortality is small, varying from one-half of one per cent of those thoroughly vaccinated to four per cent of those indifferently protected. Except in the general mildness of its course, varioloid differs in no marked respects from small-pox. Dr. Marson says varioloid is a name which appears not to be well chosen inasmuch as the disease is not simply "like" small-pox, as the name implies; it *is* small-pox; it will give the disease in the most severe form, in the natural way, by infection, to the unvaccinated, and will produce small-pox by inoculation, just as a case of small-pox uninfluenced by vaccination will do. Perhaps the best term is modified small-pox, but this term is not always correct. Small-pox after vaccination has, in fact, various degrees of severity and modification, from the slightest form in which there is none, or hardly any eruption at all, to the most severe confluent cases, often exactly resembling the disease in the unvaccinated.

Prophylaxis — vaccination.—Since the discovery of vaccination by Jenner in 1798, small-pox has been shorn of much of its terror. Indeed, it has been considered possible by general compulsory vaccination to thoroughly eradicate the disease or only allow it to prevail as modified small-pox. The proportion of cases of unmodified small-pox to the modified is constantly decreasing in those countries where vaccination is enforced by legal enactments. In England over ninety per cent of the cases of small-pox occur in vaccinated persons. An eminent writer asserts that vaccinia or cow-pox and variola are one and the same disease, and consequently only those who would contract small-pox the second time are liable to varioloid after having been vaccinated.

Vaccination may be performed with either the bovine or humanized virus, but the former is generally preferred. There is at present a strong prejudice in the public mind against the employment of the humanized virus on account of the supposed danger of contracting venereal or other diseases. The danger from this source is very much overrated. Dr. Mar-

son, in the performance of over fifty thousand vaccinations with humanized virus, has never seen any other disease communicated, nor does he believe in the popular report that they are so communicated. The testimony of many others of extended experience is to the same effect.

Lymph for vaccination is readily obtained from any reputable druggist. Several large establishments are engaged in its preparation, and give sufficient guaranties of its purity and freshness. I prefer myself, however, to use the humanized virus, one or two degrees removed from bovine lymph. It is equally safe and effective and does not produce such severe constitutional disturbance as inoculation with the bovine virus.

If children are in good health they should be vaccinated in infancy. The most suitable period is the age of three months. Any acute disease or cutaneous affection is a contra-indication to vaccination. Several methods of vaccination are in vogue, such as the single or multiple puncture, scarification with the lancet, scratching with a needle, scraping with the ivory point, etc., but any method may be practiced—the essential point being to bring the virus into contact with the absorbent vessels.

Revaccination.—Dr. Seaton, in an elaborate article on vaccination, remarks: “The numerous instances in which, from whatever cause, the protection of vaccination has proved insufficient, have led to the very frequent adoption, of late years, of revaccination. By many this practice is looked upon as only called for or useful where there has been some defect in the primary vaccination; but there is reason to believe that it has a use beyond this—that it extinguishes that renewed susceptibility to small-pox which occurs in an indeterminate proportion of persons after even the most perfect vaccination.”

Revaccination should be performed if a child's arm shows an indistinct or imperfect cicatrix, or in any event after reaching the age of puberty. It is also well to revaccinate if small-pox should break out in the immediate neighborhood.

Duration of protection.—Persons who have been once thoroughly vaccinated are, as a rule, permanently protected against small-pox. A small proportion contract the modified disease. In the British army, where all are protected either by having had small-pox or by efficient vaccination, only eight persons out of ten thousand contracted the disease.

Many of the cases of varioloid are due to insufficient protection in consequence of imperfect vaccination.

Treatment.—The patient should be in a well lighted and well aired room. There should be no carpet on the floor, and as little furniture as possible which can absorb and retain the poison. Here I wish to offer a word of caution to the physician concerning himself. Leave the outer garments and hat in the hall, do not sit down in the room, avoid touching anything in the room, and wash the hands thoroughly with some disinfecting solution before leaving the house.

All the hygienic measures to be pursued in the continued fevers as regards palliatives, etc., are applicable to the treatment of variola. Some recommend the expectant treatment and only to give medicines in the various complications which may arise. Others contend that there is a specific medication indicated which will either abort the disease or materially mitigate its severity.

The remedies chiefly indicated are: *Aconite*, *Belladonna*, *Apis*, *Baptisia*, *Bryonia*, *Hamamelis*, *Hyoscyamus*, *Tartar emetic*, *Vaccinin*, *Variolinum*, *Thuja*, *Hepar sulphur*, *Silicia*. The majority of these are only indicated in the complications occurring in the course of the disease.

ACONITE, may be given during the period of invasion when there is a severe chill followed by high fever, increased temperature, thirst, restlessness, and severe lumbar pains. It is only indicated prior to the appearance of the eruption.

BELLADONNA, is indicated in the first stage if there is dry burning heat, headache, sleeplessness, delirium, or convulsions. It is more particularly adapted to small-pox occurring in children.

BAPTISIA.—Dr. Williams in the *British Journal of Homeopathy*, says that *Baptisia* proved very effective during an epidemic of small-pox. The disease assumed a typhoid character.

BRYONIA, should be given in pulmonary or pleuritic complications.

MALANDRINUM.—Dr. Raue says that in the epidemic of 1880, he and others used *Malandrimum* with marked success as a preventive, as well as a curative agent. It prevented the suppurative fever, or lessened it at least to a considerable degree, and took away all offensive odor. An article on the remedy together with a partial proving of it can be found in the *North American Journal of Homeopathy*, August number, 1881.

TARTAR EMETIC.—I have used *Tartar emetic* with considerable success in several severe cases of small-pox. The rem-

edy is more homeopathic to the eruption than any other. I commence giving it on the appearance of the eruption, and continue it until desiccation begins. I prefer the third *dec. trit.*

APIS, is indicated in erysipelatous swelling, and especially if there is œdema of the throat; sore throat.

RHUS TOX.—*Rhus* is indicated in confluent or malignant cases, with livid eruption, dry cracked tongue, sordes on the teeth, muttering delirium and diarrhœa.

PHOSPHORUS, may be given if the disease is complicated with pneumonia, with dry cough, short quick respiration, and solidification of pulmonary tissue.

MERCURIUS, is indicated for ptyalism, swelling of the parotid and submaxillary glands, greenish mucons diarrhœa.

CARBO VEG.—Very offensive odor, lividity of the eruption; great prostration, feeble and rapid pulse.

VACCININ and VARIOLINUM are highly recommended by many physicians. It is claimed that their administration very materially mitigates the severity and shortens the duration of the disease, quickly removes all dangerous symptoms, promotes early suppuration which is speedily followed by exsiccation. It is also alleged that these remedies prevent pitting.

THUJA.—I have used *Thuja* with very good effect for the intense itching during maturation and desiccation. It is also an excellent remedy for the ulcerations which form beneath the scabs, the scars of which constitute the pits which so disfigure small-pox patients. The timely use of *Thuja* will do much to prevent pitting.

HEPAR SULPHUR is indicated if the formation of abscesses is threatened.

SILICIA should be given after suppuration is established. If fluctuation is detected it is advisable to evacuate the pus by an early and free incision, on account of its liability to burrow along and between the muscles.

CONIUM is indicated for ulceration of the cornea. It may be given internally and also as a lotion. The lotion may be composed of ten drops of *Tinc. of Conium* to one ounce of distilled water. A few drops may be applied three times a day.

Local treatment.—To shorten the period of suppuration, to promote desiccation, to allay the severe itching, and to prevent pitting, various local applications have been tried with more or less success. The most effective so far has been the application of *Carbolic acid paste*, composed as follows: *Carbolic acid*, four parts; *Olive oil*, forty parts; finely pow-

dered *Chalk*, sixty parts. The paste is applied to the face upon a linen mask with openings for nose, mouth, and eyes. Strips of linen will suffice for the arms and hands. The applications may be left undisturbed for twelve hours when new ones should be substituted. The application should be removed upon the commencement of desiccation.

Another preparation is composed of *Carbolic acid*, five parts; *Olive oil*, forty parts; pure *Starch* forty parts. Another, *Thymol*, two parts; *Linseed Oil*, forty parts; powdered *Chalk*, sixty parts. Unguents of *Olive oil* or *vaseline* are also useful.

Diet.—The diet of small-pox patients should be carefully regulated. Milk, beef tea, milk toast, arrow-root gruel, and calves' foot jelly are admissible at first. As the patient improves, soups, eggs, bread, etc., may be allowed in addition.

Disinfection.—Care should be taken to thoroughly disinfect all clothing, bedding, furniture, and the room in which the patient has been lying. The patient should also be kept from contact with others until ample time has been allowed (at least forty days) for the complete destruction of the miasm.

VARICELLA.

(*Synonym*, CHICKEN-POX.)

Varicella is a febrile, slightly contagious disease, manifesting itself by successive crops of vesicles lasting from seven to twelve days, and like other eruptive fevers not recurring in the same individual.

Symptoms.—Varicella begins with headache, slight fever, and a general sense of discomfort; within twenty-four hours small, rosy, slightly acuminated spots appear on the face, trunk, and limbs, sparsely sprinkled over the skin. These in a short time take the form of roundish, transparent vesicles from the size of a shot to that of a split pea; while these vesicles are forming, other rosy spots appear in increased numbers, which in turn form vesicles. For four or five days these successive crops of rosy, acuminated spots and vesicles appear.

If a vesicle is pricked it at once collapses and reveals a slight turgescence underneath. The contents of the vesicles after about twenty-four hours become slightly turbid, and a slightly inflammatory areola appears around their base. Some vesicles are easily broken by the scratches of the

patients and speedily form dark looking crusts, but those which do not get broken, in two or three days assume a purulent appearance and the contents dry into a scab, which first appears in the center and spreads towards the circumference. In about seven days the scabs fall off in fragments, leaving a red spot which soon disappears.

If the vesicles have been much irritated and the resultant crust is hard, thick, and coherent, it may leave a permanent pit, although such a result is very rarely seen.

Varicella appears on all portions of the body, including the scalp.

Diagnosis.—Varicella and modified small-pox may sometimes be confounded. It is of great importance that varioloid may not be mistaken for varicella, and proper caution should be used in making a diagnosis. Varioloid resembles varicella in the mildness of its symptoms, the scarcity of the eruption, and the brief duration of the disease. The character of the eruption is different. The papule of small-pox feels like small shot under the skin, and the vesicle has the characteristic central depression, neither of which symptoms are present in chicken-pox. The base of the varioloid vesicle is also indurated and raised to a degree not observed in varicella.

Prognosis.—The prognosis is always favorable, the disease not being attended with any danger to life.

Treatment.—Usually none is required. In cases of unusual severity in which the fever is quite high and the vesicles numerous, *Aconite*, *Ant. crudum*, *Pulsatilla* and *Rhus* are the remedies chiefly indicated.

ACONITE is indicated if the fever is high.

ANT. CRUDUM and PULSATILLA if there is much gastric derangement.

RHUS if the eruption is unusually abundant.

SCARLET FEVER.

This disease, the most dreaded of its class, next to small-pox, derives its name from the characteristic color of its eruption. Scarlet rash and scarlatina are popularly supposed to differ from scarlet fever, but they are different forms of the same disease, and physicians should take pains to correct the fallacy. The only pathological changes are in the skin and throat. Any other pathological appearances found on the bodies of scarlet fever patients belong mostly to the complicating or consequent diseases.

Symptoms—stage of invasion.—The disease usually begins with a chill, followed by fever more intense than in other eruptive diseases. Vomiting usually occurs in children; epistaxis occasionally. Redness and soreness of the fauces are generally present. Other symptoms are: headache, flushed face, thirst, and hot skin. The pulse is rapid, varying from one hundred and twenty to one hundred and sixty beats per minute. Temperature from one hundred and two to one hundred and four degrees. The tongue is coated with a thin white fur, with red tip and edges. In mild cases these symptoms are much less marked, and the patient is not sick enough to be confined to the bed. Convulsions and coma may precede the eruption, and, in severe cases, may cause death within twenty-four hours from the beginning of the attack. The period of invasion lasts from ten to forty-seven hours, and is followed by the period of eruption.

Eruption.—This appears first upon the face and neck, and spreads thence over the whole body in about twenty-four hours. It first appears in minute scarlet spots, which soon coalesce, forming large patches, occasionally covering the whole body. It is brighter where the skin is most delicate. The spots do not always run together, assuming the variety known as scarlet rash. The skin is usually smooth, but in some cases slight elevations may be felt by passing the hand over the skin. There is often some subcutaneous swelling, more perceptible in the face. If the finger is rubbed over the skin the scarlet fades into a white streak, which lasts a moment and then disappears. If rubbed more strongly the skin shows a central red streak, with white on each side. These marks are held to be diagnostic.

The fever does not subside with the appearance of the rash, but rather increases in intensity. The pulse becomes more frequent, reaching, in some cases, one hundred and sixty. The temperature is also increased, ranging from 102° to 106° . Delirium is present in severe cases. The throat is swollen, red, and painful, and, especially in the variety of the disease called anginosa, the tonsils and uvula are covered with an exudation of lymph of an ashen gray color, adhering more closely than diphtheritic exudation, but not coming off in strips as the latter does. The tongue is thickly coated with whitish fur, which, in the progress of the disease, undergoes a change, which is pathognomonic. The coating peels off, leaving the tongue clean, and of a bright red, strikingly resembling a ripe strawberry, the papillæ appearing like the

seeds of the berry. The submaxillary glands are often swollen and tender. Thirst is usually great. The patient is restless and wakeful. Albuminuria is present in a certain proportion of cases, but does not possess the importance which attaches to it later in the disease.

The duration of the eruption is from four to six days, when it fades in the same order of its appearing.

Desquamation.—In a day or two after the subsidence of the rash desquamation begins—first on the face and neck; the cuticle is detached in small scales from the face and body, and in flakes, where it is thicker, as on the hands and feet. Where the cuticle is abnormally thick, as on the feet of children barefoot most of the time, casts of nearly the entire foot are thrown off. I had one in my possession resembling a sandal.

With the beginning of desquamation there is a general amelioration of the symptoms. The fever abates, the pulse and temperature become nearly normal, the tongue assumes a more natural appearance, appetite returns, and the swelling, soreness, and ulceration of the throat disappear. The duration of this stage is from six to twelve days.

Other varieties of the disease have been called, respectively, *anginosa*, *maligna* and *latens*.

In the so-called *anginosa* the disease expends its force chiefly upon the throat, the eruption not being so prominent a symptom. The tonsils and uvula are swollen, dark red, and covered with a tenacious coating of coagulated lymph. Ulcers form on the tonsils, becoming foul and corroding. The mucous membrane and Eustachian tubes swell, and the inflammation often extends along them to the internal ear, causing deafness and ulceration, with occasional perforation of the tympanum and loss of the ossicles of the ear. Œdema of the glottis sometimes occurs, and occasionally the disease extends into the larynx and bronchial tubes.

Scarlatina maligna is characterized by great prostration of the vital powers. The symptoms resemble those of cerebral typhoid. The eruption is darker in color, the tongue is dry and parched; delirium, coma, or convulsions are liable to occur. The patient often dies within twenty-four hours from the first invasion of the disease.

Latent scarlet fever is so called from the absence of the eruption, there being only fever and sore throat. It is liable, however, to be followed by sequelæ.

Complications and sequelæ.—Scarlet fever has various complications and sequelæ, which occur during and after the

disease, and which often prove more troublesome than the fever itself. They are: coryza, bronchitis, pneumonia, diphtheritis, abscess, otitis, otorrhœa, and albuminuria.

Causation.—Scarlet fever is caused by a specific miasm, and is undoubtedly communicable from one person to another. It is also well established that the infectious matter may be carried in clothing, and retains its power for a long time. It is also retained in bedding, carpets, and coverings of furniture, so that children entering rooms weeks after a case of the disease, have contracted it.

The period of incubation is from three to six days—shorter than in most other diseases. The liability to contract this disease is greater in children, and decreases with advancing years. The period of greatest liability is between the ages of three and five years.

Scarlet fever is rarely experienced but once. Exceptionally it occurs twice. Many of the so-called recurrences are due to mistakes in diagnosis.

Diagnosis.—The diagnosis in ordinary cases is not difficult, but in severe forms of the disease it may be mistaken for other affections. The primary eruption of small-pox somewhat resembles that of scarlet fever, and has been mistaken for it. In attacks beginning with extreme severity it may be mistaken for meningitis, especially before the eruption makes its appearance.

The great heat of the body, the rapidity of the pulse, and the sore throat, will usually lead to a correct diagnosis. In latent scarlet fever it is at times impossible to be positive in the diagnosis, and a guarded opinion is advisable. The same precautions should, however, be taken against infection of others as in well defined cases. The eruption of roseola closely resembles that of scarlet fever, but in roseola we lack the other characteristic symptoms of the latter; as, sore throat, heat, and rapid pulse. In general, the brief stage of invasion, the rapidity with which the rash spreads over the body, the great heat, the rapidity of the pulse, and the vomiting, render the diagnosis tolerably certain. Later on, the strawberry tongue will aid in forming a correct diagnosis.

Prognosis.—In mild cases the prognosis is favorable, yet complications may set in, and sequelæ follow, which may endanger life.

In scarlatina maligna, and the severer cases of anginosa, the prognosis is unfavorable. Uræmic convulsions or coma indicate extreme danger; swelling and suppuration of the

parotid and submaxillary glands, pneumonia, hemorrhage from the mouth, very rapid pulse, with prostration and high temperature, are unfavorable symptoms. Of the sequelæ, albuminuria is the most dangerous.

In some epidemics a large percentage die, in others very few. In no disease should the physician be more cautious and guarded in his prognosis.

Prophylaxis.—Isolation of the patient, and, if possible, removal of those liable to contract the disease, with the administration of *Belladonna*, are the best methods of prevention.

In regard to the prophylactic power of *Belladonna* much has been written pro and con. It is prudent to give it, and equally prudent not to rely wholly upon it and neglect to use other precautions. A dose of the 2d dec. dil. may be given three times a day.

Treatment.—The patient should be placed in an airy, well lighted room, and all upholstered furniture, carpets, and cloth curtains removed.

The principal remedies are: *Belladonna*, *Hyoscyamus*, *Rhus*, *Apis*, *Bryonia*, *Ipecac*, *Lachesis*, *Amm. carb.*, *Merc. pro. iod.*, *Opium*, and *Silicia*.

In mild cases very little treatment will be required. A dose of BELLADONNA once in three or four hours will suffice.

In severe cases without complications *Belladonna* is still the chief remedy. One dose of the 3d dil. may be given once in two hours until the fever and heat abate, when it should be given at longer intervals.

HYOSCYAMUS should be given if the patient is excited, restless, sleepless, or with loquacious delirium.

IPECAC.—For persistent nausea and vomiting.

RHUS TOX.—If, with the rash, there is also vesicular eruption. Also, in scarlatina maligna—drowsiness, with delirium; pulse rapid and feeble, tongue dry and brown; teeth covered with sordes; muttering; diarrhœa; prostration.

APIS.—In scarlatina anginosa, with swelling of tonsils and uvula; œdema of uvula and glottis.

BRYONIA.—If complicated with pneumonia; also, for rheumatic pains, worse from motion.

LACHESIS.—In scarlatina anginosa, with sloughing ulceration of throat; diphtheritic exudation on tonsils, beginning on left and extending to right; smooth, red, dry tongue; difficult protrusion and trembling of tongue; partial paralysis of muscles of deglutition; cold sweat; prostration.

AMM. CARB.—Great prostration, with gangrenous ulceration of throat; tonsils dark red; hemorrhage of dark blood from mouth and throat; drowsiness; coma; involuntary stools; pulse small and thready. The prognosis with these symptoms is very unfavorable.

OPUM.—In coma, soon after invasion, with slow, full pulse, contracted pupils, stertorous breathing.

MERC. PRO. IOD.—When the disease is complicated with diphtheria—exudation on tonsils, extending to the nares, with thin, ichorous discharge from nostrils. To be given in alternation with *Belladonna* if the complication occurs early in the disease.

SILICIA is indicated in suppuration of external ear. I prefer the 30th dil.

AURUM MET.—For ulceration of internal ear, with caries or loss of ossicula.

Accessory treatment.—From the invasion of the disease until desquamation begins the patient should be sponged frequently with tepid water, or tepid baths may be given. The greater the heat and fever, the oftener the sponging. In severe cases, with high temperature, rapid pulse, and convulsions or coma, affusions of water of 70°, packing in wet sheet, or frequent sponging are highly recommended. Affusion may be done by placing the patient in a sitting position in a bath tub, and gently pouring water from a pitcher over the head and shoulders for one-half a minute to one minute, then rub the patient dry and replace in bed. Affusion, especially in active delirium, often produces happy results, but as it seems harsh, and is often objected to, the wet pack or cold sponging may be substituted for it with great benefit. To administer the wet pack, wring out a sheet wet with water of 70°, lay it on a couple of blankets, place the patient on the sheet, and wrap it closely round the body; afterwards, wrap the blankets in same manner; leave the patient from one-half an hour to an hour, then unwrap, rub dry, and place in bed moderately well covered up. Cold sponging may be repeated once in two or three hours, with good results. In ulceration of the external ear it should be carefully syringed with soap and water two or three times a day.

In ulceration or sloughing of the throat, gargles of dilute HYDROCHLORIC ACID or of PERMANGANATE OF POTASH should be used—twenty drops of the acid to four ounces of water, or one-half grain of the salt to six ounces of water. Gargle once in four hours. If the patient is too small to gargle the throat, a teaspoonful of the dilute *Acid* may be given instead.

In diphtheritic complication, with great fetor of the breath, a gargle of CHLORATE OF POTASH may be used. One-half a teaspoonful of the salt in a glass of water.

The diet should be light and easily assimilated—milk, gruel, arrowroot, etc. In convalescence, beef tea, soup, eggs, with the above. The patient should be confined to the room for at least four weeks, or until all danger of taking cold or of communicating the disease has passed. Proper measures should be taken to thoroughly disinfect the room, bedding, and clothing. The room should be fumigated with *Sulphur*, and the bedding and clothes soaked in a solution of *Chlorinated soda* or *Carbolic acid*, and thoroughly boiled.

ACUTE ALBUMINURIA, ACUTE DESQUAMATIVE NEPHRITIS, POST SCARLATINAL DROPSY.

These three names express three coincident conditions occurring at a variable period after desquamation, usually from three to four weeks from the invasion of the disease; namely, nephritis, albumen in the urine, and dropsy.

Acute albuminuria is the most common and most serious sequela of scarlet fever. Albumen is often present in the urine early in the disease, but its presence then is not necessarily unfavorable.

Symptoms.—At the beginning there is some fever, dry skin, scanty urine. Tests of the urine, with heat and *Nitric acid*, show albumen, and the microscope reveals cylindrical casts and blood disks. Œdema first appears in the eyelids and face, and may increase until anasarca becomes general. The skin has a peculiar waxy color. Effusion may take place into the peritoneal, pleural, and cardiac cavities. The greatest danger is from effusion into the pleura and pericardium.

The symptoms of effusion are: extreme dyspnœa, livid color of the face, great distress, and irregular, feeble pulse. Unless promptly relieved, death speedily ensues.

Treatment.—The urine should be frequently examined for albumen. The remedies are: *Vapor baths*, *Apis*, *Digitalis*, and *Apocynum*.

I regard *Apis* as the best remedy. It has in its pathogenesis: œdema of the eyelids, face, hands, and feet; waxy color of the face; scanty, bloody albuminous urine.

DIGITALIS is better adapted to hydropericardium.

APOCYNUM may be given to relieve the kidneys and promote a more copious flow of urine.

The prognosis in albuminuria is favorable, except in effusions into the pleura and pericardium.

In chronic albuminuria following scarlet fever, it is doubtful if *vapor baths* will prove beneficial.

MEASLES.

(*Synonym, RUBEOLA.*)

Measles is a contagious disease, generally occurring as an epidemic, and often preceded, followed, or associated with an epidemic of whooping-cough. It may be divided into two stages—the catarrhal and eruptive.

Symptoms.—The attack commences with chilliness and lassitude, followed by fever. The eyelids are inflamed, the eyes suffused and watery, and there is usually a profuse, thin discharge from the nostrils. Other symptoms are: sneezing; dry cough; hoarseness; tongue thickly furred; frontal headache; pulse accelerated but not full, ranging from ninety to one hundred and ten; thirst. Vomiting is often present, and, occasionally, diarrhoea. In a certain proportion of cases the throat is sore. The first stage lasts about three days.

Stage of eruption.—The eruption appears first on the forehead and cheeks, and extends thence over the body in from one to two days. It consists of minute pointed elevations, about a line in breadth, feeling slightly rough under the hand. It appears in irregular crescentic patches or groups, of a dark red color; is most abundant on the face, and least abundant on the lower extremities.

With the appearance of the rash the fever becomes more intense, and the pulse stronger and more rapid. The temperature rises to 102° or 103° . The eyes are red, intolerant of light, and suffused and swollen. Some swelling of the subcutaneous tissue takes place, more noticeable in the face. Deafness may be present from extension of the inflammation to the Eustachian tubes. The cough increases in severity, with dry, sibilant rales in the bronchial tubes.

On the second or third day from the appearance of the eruption the fever begins to subside, the pulse and temperature to approach the normal type, the cough to abate, the rash to disappear in the same order of its appearance, and desquamation commences. This is not always noticeable. It consists in the exfoliation of minute branny scales, more observable on the face. The disease is more severe in adults than in children, the former suffering more with gastric and

bronchial complications. It is also more severe in winter than in summer.

The period of incubation is from nine to fourteen days; the duration of the disease from five to ten days.

Some observers make two varieties of measles—*morbilli mitiores*, and *morbilli graviores*, sometimes called black measles. They, however, differ only in degree of severity, the latter being of a more intense type, with typhoid symptoms. The rash is imperfectly developed, and of a dark, livid color. There is great prostration, low muttering delirium, or stupor; the teeth are covered with sordes, the tongue becomes dry and brown, the pulse is rapid and weak. Congestion of the lungs, laryngeal croup, or pneumonia are not infrequent complications in this form of measles. Such cases are, however, happily rare.

Complications.—The complications liable to occur are: bronchitis, capillary bronchitis, and pneumonia.

Sequelæ.—These are: chronic laryngitis and bronchitis, pulmonary tuberculosis, and conjunctivitis.

Diagnosis.—The diagnosis is generally easily made. The coryza, cough, and peculiar crescentic appearance of the eruption serve to distinguish it from other diseases. It may, however, be mistaken for scarlet fever, roseola, and small-pox.

From scarlet fever it is discriminated by the coryza and cough, the later appearance of the rash, its crescentic form, and its darker tint. The eruption of roseola appears first in the chest, is much lighter in tint, is unattended with coryza and cough, and the skin is not swollen.

The primary eruption of variola more nearly resembles that of measles, but it gives to the hand a feeling of fine shot under the skin, which, together with the severe lumbar pains, distinguish the disease from measles.

Prognosis.—The prognosis is favorable, very few dying of the disease. When complicated with capillary bronchitis or pneumonia the prognosis is more unfavorable. Capillary bronchitis occurring in young children, in conjunction with measles, adds materially to the gravity of the case, and renders the prognosis doubtful. The prognosis is also unfavorable when measles occurs during pulmonary tuberculosis.

Chronic laryngitis and bronchitis, following an attack of measles, prove particularly obstinate to treatment.

Pulmonary tuberculosis not infrequently follows as a sequela of measles, particularly in individuals with a predisposition to the disease.

Chronic conjunctivitis occasionally proves a very troublesome sequela.

Treatment.—In mild, uncomplicated cases no treatment is necessary. A warm bath may be given daily, and the diet should be light and unstimulating—milk, arrowroot, gruel, chicken broth. If the fever is high *Aconite* should be given once in two hours. Too much light should not be admitted as the eyes are intolerant of it, but free ventilation should be provided.

The remedies are: *Aconite*, *Bryonia*, *Pulsatilla*, *Tartar emetic*, *Ipecac*, and *Phosphorus*.

ACONITE.—High fever, dry cough.

BRYONIA.—If *eruption* is *delayed* or repelled, with dry heat, headache, thirst, furred tongue; also when complicated with pneumonia.

PULSATILLA.—*Pulsatilla* is indicated if the gastric symptoms predominate—vomiting, pain in the epigastrium, repugnance to food, tongue thickly coated with a grayish fur, disagreeable taste.

TARTAR EMETIC.—*Tartar emetic* is indicated when measles is complicated with bronchitis, with wheezing, rattling respiration, and profuse discharge of mucus; also in capillary bronchitis, with rapid breathing, subcrepitant rales, dyspnoea.

IPECAC.—Persistent nausea, dry cough, sibilant rales in bronchial tubes.

PHOSPHORUS.—*Phosphorus* is indicated when a dry cough remains after convalescence, in chronic solidification of lungs, or if the patient is threatened with pulmonary tuberculosis.

ROSEOLA.

(*Synonym*, ROSE RASH.)

This exanthem is of no special importance, and demands consideration chiefly on account of its liability to be confounded with measles, scarlatina, and the primary eruption of variola.

The rash is preceded for a day or two by a feeling of languor, followed by a slight fever, headache, furred tongue, with occasional vomiting and diarrhoea. The rash appears in rose colored spots, generally on the chest first, and spreading in patches over the body. There is no roughness or elevation of the skin, which becomes pale on pressure. The eruption, at first bright red, gradually changes to a rose color, and fades away in from one to three days.

Diagnosis.—Roseola somewhat resembles measles, though more frequently scarlet fever. It is distinguished from measles by the absence of coryza and cough, swelling of the skin, and the peculiar crescentic appearance of the eruption, characteristic of the latter disease.

From scarlet fever it can be distinguished by the small amount of constitutional disturbance, and the rash not appearing first on the face; from the primary eruption of variola, by the absence of chill, high fever, and the characteristic pains in the loins and limbs.

It is caused by sudden changes in temperature, gastric disturbance, and the irritation of dentition. It is much more frequent during the summer months, and sometimes appears as an epidemic. Some writers regard it as contagious, but it is not generally so regarded. One attack does not secure immunity from recurrence.

Treatment.—The diet should be light, and exciting causes of the disease should be avoided.

BELLADONNA should be given if it occurs during dentition; PULSATILLA, if due to gastric disturbance.

Suitable changes of clothing should be made during sudden changes in the temperature.

DENGUE.

(*Synonym*, BREAKBONE FEVER, DANDY FEVER, SCARLATINA RHEUMATICA.)

Dengue is an epidemic eruptive fever, of short duration, but great severity, attended with chill, fever, violent pains in the joints and muscles, and accompanied and followed by great prostration. Relapses are common, and convalescence is slow and protracted.

It has prevailed as an epidemic in India, the West India Islands; and the Southern states. Prof. Dickson, of South Carolina, gives a history of the epidemic in Charleston in 1850.

Symptoms.—The attack comes on suddenly. The symptoms are: lassitude, yawning, drowsiness, chilliness, numbness of the toes and fingers, headache, pains in the large and small joints, and in the muscles of the back, shoulders, arms, and legs. The joints swell, the neck becomes stiff, the skin hot and dry, the thirst great, the tongue red, the pulse rapid and full, the face flushed. Gastric derangement is present in a majority of cases, as nausea, vomiting, præcordial distress,

and loss of appetite. The bowels at first are usually constipated. Extreme prostration and debility quickly follow, accompanied with an increase of the pains in the joints and muscles. The patient becomes anxious and restless, and is tormented by the severity of the pains and twitching of the affected muscles. The pains shift frequently from one part to another, attacking now the upper extremities, now the lower, and changing from one side to the other. These pains are so intense and excruciating as to give a distinctive name to the disease; *i. e.*, breakbone fever. In about twenty-four hours the symptoms begin to abate. The fever, heat, flushing of the face, headache, and the excruciating pains in the joints and muscles begin to subside, leaving the patient in a state of extreme exhaustion.

The remission lasts three or four days, the patient, meanwhile, being restless and irritable, with dull, aching pains in the joints, great debility, and loss of appetite. At the end of three or four days the fever, headache, and pains return, and with the exacerbation an efflorescence or rash appears, first on the hands, and spreading from thence over the whole body. The appearance of the rash is not uniform. It resembles, in different cases, the eruption of measles, scarlatina, lichen, or varicella. The rash is attended by itching, and, occasionally, by swelling. Some degree of desquamation follows its disappearance. The rash begins to fade within twenty-four hours after its appearance, generally disappearing within two days.

With the disappearance of the rash the symptoms gradually subside, leaving the patient weak and exhausted. Convalescence is slow, being protracted to six or eight weeks, and is attended with more or less neuralgia and muscular pains.

Causation.—The causation is obscure. By some the disease is classed with the malarial fevers, and is supposed to arise from the same cause. Others think it to be rheumatic, and to follow long continued rains, with close, hot atmosphere.

Diagnosis.—Its epidemic character, the suddenness of the invasion, the peculiar and characteristic pains, and the eruption, distinguish this disease from any other. It resembles, in some of the symptoms, measles, scarlatina, and rheumatism, but differs widely in its totality from any of them.

Prognosis.—The prognosis is favorable, the disease rarely proving fatal.

Treatment.—Dengue is essentially a self-limited disease, running a well defined course, and it is doubtful if we can do

any more than moderate the extreme severity of the pain, control in some degree the fever, prevent complications, and relieve the debility, prostration, and muscular pains which attend convalescence.

The remedies most applicable are: *Aconite*, *Bryonia*, and *Gelseminum* during the attack; *China*, *Nux*, *Colchicum*, and *Rhus* during convalescence.

ACONITE has many symptoms in its pathogenesis similar to those of dengue; such as, fever, heat, thirst, numbness and tingling of the fingers and toes, stiff neck and back; severe pains in the joints and muscles; jerking and twitching of the muscles; rash like measles, with pain in joints.

BRYONIA has the following group of symptoms: headache, dry heat, drawing pain in joints with swelling, pain in muscles of arms and legs, great prostration and weariness, painful stiffness of the neck, pain in small of the back.

GELSEMINUM has these symptoms: fever, full pulse, myalgic pains in neck and back, deep seated muscular pains in arms and legs, heaviness and weakness of the muscles, jactitation of muscles, tingling and numb feeling.

During convalescence CHINA and NUX will often be indicated for the debility and weakness of appetite and digestion.

For rheumatic pains in small joints COLCHICUM will prove of value, and BRYONIA and RHUS for pain in the larger joints.

ACTÆA is recommended for myalgic pains.

The diet during convalescence should be nutritious and easily digested.

CHAPTER V.

DIPHTHERIA, ERYSIPELAS, AND PURPURA.

DIPHTHERIA—HISTORY—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. ERYSIPELAS—VARIETIES—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. PURPURA—VARIETIES OF—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

DIPHTHERIA.

History.—Under a great variety of names this disease has been known and described by many writers from the time of Hippocrates to the present.

It was described by Hippocrates and Celsus, by the Arabian physicians, and, subsequent to the sixteenth century, by physicians of France, Spain, Italy, and England. In 1749 an English author writes of it as *morbus strangulatorius*, the disease, evidently, in many cases, invading the larynx. In 1778 Dr. Beard describes its appearance in North America.

To show how earlier epidemics possessed the characteristics of the disease as known to us, I translate from the works of an Italian physician, Aetius, who wrote in the beginning of the eighteenth century. "These are the symptoms of the disease. The throat becomes inflamed and red, with pain and fever. After a little a pustule appears, which subsequently becomes an ulcer, with an ash colored crust, sometimes whitish or of a dark color, which frequently falls off. More often the ulcer appears without the pustule. The throat becomes gangrenous and sloughing, the gangrene at times extending down the œsophagus to the stomach, or from the larynx to the lungs. Some breathe with difficulty, others are unable to swallow.

"Some die in profound coma, some from copious hemorrhage from the nose, and others from asthenia. The disease chiefly attacks the young, and so great is the destruction that whole families are carried off. Many of those who recover are affected, for a greater or less time, with muttering of speech and difficulty of articulation."

In 1818, during an epidemic in France, Bretonneau thoroughly investigated the disease, and gave it the name it now bears.

Diphtheria is an acute specific disease, epidemic and contagious, appearing primarily upon the mucous membrane of the pharynx, attended with a rapid exudation of false membrane or fibrin. The larynx, nares, and skin may also be similarly affected. Albuminuria is also frequently present at an early period.

The disease is accompanied by great prostration, and is often followed by serious nerve lesions. Death occurs from asthenia, or apnœa in consequence of obstruction of the trachea.

Symptoms.—Some general constitutional symptoms nearly always precede the local manifestations; such as, a feeling of lassitude and debility; aching in the back and limbs; chilliness followed by fever, headache, loss of appetite, dullness of apprehension, and, occasionally in young children, convulsions. The temperature is increased and the pulse accelerated—quick but not strong. The tongue is moist, with a thin whitish fur.

In some cases the precursory symptoms are so slight as hardly to be noticeable, and the throat symptoms first call attention to the condition of patient. The throat is red, swollen, and sore, with pain extending to the ear; deglutition is sometimes painful. In some cases there is pain and stiffness in the back of the neck.

In one or two days the characteristic exudation appears. It usually commences first on one tonsil, in small ash colored spots, which soon coalesce, forming a patch of varying size, and spreading thence over the uvula, pharynx, soft palate, and up into the nares; in a certain proportion of cases, downward into the œsophagus and into the larynx and trachea. The membrane resembles wet parchment or buckskin, adheres closely to the mucous membrane, and if torn off a new deposit succeeds it. If, however, it is cast off, it is seldom succeeded by fresh exudation. It may also appear upon the lips, the face, or any abraded cutaneous surface, or in the vagina and rectum.

As it decomposes it has a most offensive odor. The general symptoms are: slight or great prostration; a sense of weariness; loss of appetite; rapid, rather feeble, pulse; tongue slightly furred. The temperature runs from 102° to 104°, rarely exceeding the latter. The cervical and submaxillary

glands are swollen, and there is subcutaneous infiltration in front of the neck and under the chin. In severe cases there is often hemorrhage from the nose and fauces; a thin acrid discharge pours from the nostrils, corroding the lip. The breath is exceedingly fetid; often there is profuse salivation. In fatal cases the deposit continues to increase in thickness, the prostration and weakness become greater, the pulse is feeble and irregular, the skin cold, the power of deglutition ceases, and death by asthenia ensues.

The mental faculties are generally unimpaired. Albuminuria is present in a majority of cases, and more frequently at the period of convalescence. Hemorrhage is not infrequent, and may prove fatal from its amount and the coincident exhaustion of the patient. It may occur on some thick deposit being cast off, or some condition of the blood favoring transudation. Loss of albumen is probably one of these causes. Hemorrhagic spots appear on the skin.

Extension of the disease to the larynx, trachea, and even the bronchi, is a frequent cause of death. The symptoms are those of membranous croup, and the cause of death the same; namely, slow suffocation.

A long series of various forms of paralysis may appear during the course of the disease, its subsidence, and convalescence, which are the effects of diphtheritic poison; such as altered tone of voice, regurgitation of fluids through the nares, inability to swallow. Partial paralysis of the pneumogastric nerve is shown by a marked infrequency of pulsation. Paralysis of the diaphragm has been occasionally observed, respiration being performed by the action of the intercostal muscles. Aphonia is not infrequent. The nerves of special sense, particularly of taste, smell, and sight, are affected, with more or less impairment of power. The general sensibility is impaired, with tingling and numbness, particularly of the lower extremities. Muscular debility is frequent.

The duration of the disease is from two to twelve days. Convalescence is slow, sometimes protracted to six or eight weeks. A feeling of debility and enervation remain a long time. In some instances, after the local symptoms have subsided and convalescence has apparently been established, the patient dies from the effects of paralysis of certain functions; sometimes from inability to swallow, death ensuing from inanition; or paralysis of the stomach preventing the digestion and assimilation of food.

Causation.—It is pretty well established that diphtheria is contagious. The contagious matter is not so subtle and

widely diffused as that of scarlet fever and small-pox, but is confined to particular places and houses.

The infectious property is probably not confined to the exudation, but is possessed by all the excretions of the body. It is doubtful if the disease is carried from one house to another by physicians, nurses, or visitors, although any of these may contract the disease by contact with the sick. The infectious matter retains its vitality for a surprising length of time. During the epidemic of 1860 I removed the child of a friend, another of whose children was sick with diphtheria, to my own house, in order to preserve it from infection. Three weeks after convalescence of the patient was established the child was taken home, took the disease within four days, and died. As the disease develops in from two to eight days after exposure it is evident that the disease was contracted after the return home. Infection may also be communicated by those convalescent from diphtheria, for a considerable period afterwards, even though the patient has been removed from the place of sickness. Therefore, there is a great risk in bringing a convalescent in contact with the well until the power of communicating the disease is eradicated. Isolation from other children should be maintained for at least six weeks.

Diagnosis.—It has been the custom for many years to diagnose any disease exhibiting exudation on the tonsils or pharynx as diphtheria.

Tonsillitis and scarlet fever both show an exudation on the fauces, but it is thinner, somewhat transparent, and limited in extent. The exudation of diphtheria is thicker, ashy gray in color, and widely diffused.

Diphtheria may be confounded with tonsillitis, scarlet fever, and measles. In tonsillitis the swelling is greater, is smooth and shining; the exudation is thin, limited in extent, and the general symptoms simply indicate local irritation, with no great constitutional disturbance. The disease frequently subsides on one side to attack the other. The tendency is to suppuration, and convalescence is quickly and completely established.

In scarlet fever the sudden invasion of the disease, the rapid pulse, the high temperature, the speedy appearance of the rash and the strawberry tongue, none of which symptoms are characteristic of diphtheria, sufficiently discriminate between the two diseases. Scarlet fever rarely or never invades the larynx; the reverse is the case in diphtheria.

Prognosis.—The prognosis is doubtful. The intensity of the first symptoms is not always indicative of the subse-

quent course of the disease. Any or all of the more dangerous symptoms may successively appear and endanger life. Reproductions of patches of deposit, albuminuria, extensive spreading of the exudation, its appearance in the larynx, hemorrhage from the mouth or nose, swelling of the lymphatic glands, great prostration, are all indicative of danger.

The symptoms which foreshadow an unfavorable result are croupy cough, exudation filling both nostrils, hemorrhage, and great prostration; a very rapid or slow pulse is indicative of danger, as, also, is a temperature much below the normal standard.

Favorable symptoms are detachment of the membrane without reproduction, subsidence of the pulse and temperature, ability to take and retain nourishment.

Treatment.—The remedies are topical and general. The topical remedies most beneficial are: *Chlorate* and *Permanganate of Potash*, *Alcohol*, and *Phytolacca*. Half a teaspoonful of the *Chlorate*, one-third of a grain of the *Permanganate*, or twenty drops of the *Tinc. of Phytolacca*, in four ounces of water, may be used as a gargle once in three or four hours. Small pieces of *ice* slowly dissolved in the mouth or swallowed is often an excellent application.

I object to the use of *fat bacon* applied to the throat, an appliance so much in vogue in domestic practice. Washing the throat with *Alcohol* is beneficial. If there are partly detached pieces of membrane they should be carefully removed.

The general remedies are: *Belladonna*, *Apis*, *Protiodide* and *Biniiodide of Mercury*, *Cyanuret of Mercury*, *Lycopodium*, *Lachesis*, *Arsenicum*, *Kali bichro*.

BELLADONNA.—*Belladonna* is indicated in the beginning of the attack if there is much redness, soreness, and pain in the throat, with hot dry skin, rapid pulse, restlessness.

APIS.—Symptoms calling for *Apis* are: bright red throat, with swelling of the tonsils and uvula; tumefaction of neck; swollen face; difficult breathing from swelling of sub-areolar tissue of throat; coincident albuminuria. It may be given in alternation with other appropriate remedies, for dropsy following diphtheria.

MERC. BINIODIDE AND PROTIODIDE.—The *Iodides of Mercury* seem to have nearly the same therapeutical range of action. Some prefer the *Protiodide*, others the *Biniiodide*. I have derived more benefit from the administration of the *Protiodide*. Its symptoms are: exudation, beginning in

spots on the tonsils, rapidly coalescing; offensive odor; exudation in nares, with discharge of thin corrosive mucus from nostrils; swelling of parotid and cervical glands; prostration not very great. I prefer the first centesimal trituration, one to two grain doses, according to the age of the patient.

LACHESIS is a most indispensable remedy in diphtheria, especially in its most malignant form, with great prostration of the vital forces. Its indications are: exudation appearing on left tonsil, and spreading to the right; invasion of the nares and soft palate; tumefaction of the neck; swelling of the submaxillary and cervical glands; rapid, weak pulse; coldness of the hands and feet; very offensive breath; somnolence, with delirium on being roused; snoring breathing; voice feeble and inarticulate.

LYCOPODIUM.—This remedy is said to be curative when the right tonsil is the seat of the attack, the exudation extending to the left; fan-like motion of the alæ nasi; mouth open; restless and peevish. I cannot speak from my own experience with this remedy. I do not consider it homoeopathic to diphtheria.

MERC. CYANURET.—Exudation extending over fauces and nares; putrid odor; constant discharge of saliva; swelling of the glands; excessive prostration; great heat; pulse rapid and feeble. I have tried this remedy, but have been disappointed in its effects.

KALI BICHO. is indicated if the disease invades the larynx. The same general treatment applies in this case as in membranous croup—inhalation of steam, vapor of lime, *Iodine* or *Bromine*, with tracheotomy as a last resort.

ARSENICUM.—*Arsenicum* is indicated in extreme cases, with intense prostration, great restlessness and thirst, gangrenous patches in the throat. It is a forlorn hope, but may rally the sinking vital forces.

It is of the utmost importance that the nutrition of the patient be sedulously attended to. The articles of diet to be preferred are milk and beef tea, and one or the other should be given once in two or three hours, according to the weakness and debility of the patient. Solid food should not be given, in severe cases, until convalescence is established. Food should be given two or three times during the night. In cases attended with great prostration it is advisable to give stimulants. Wine and good whisky are to be preferred. If the patient takes and retains food well the stimulants can be omitted. The less food taken, the more stimulants are

needed. The patient should not be allowed to leave the bed too soon, lest a relapse occur. For the paralyses which follow the establishment of convalescence the galvanic current should be applied perseveringly. The clothing and bedding used should be thoroughly disinfected, and the room occupied by the patient fumigated. The same general directions apply which are given in the article on scarlet fever.

From a work published by Dr. R. R. Gregg I extract the following clinical experience with *Lycopodium* and *Lachesis*, and with a single dose of the selected remedy.

Dr. Gregg says: "February 15th I was called to a little girl, in her sixth year, who had been five days sick with diphtheria under Allopathic treatment, and vigorously dosed, gargled, cauterized, saturated about the neck with *Petroleum*, and blistered, until the case was one of the most serious in character. The disease commenced in the right side of her throat, and upon examination I found both tonsils greatly swelled, the right, however, the most, and extensive exudations over tonsils, uvula, and posterior wall of the pharynx, but the thickest and worst in appearance upon the right side. In addition there was almost constant streaming of purulent mucus from the nostrils, and dribbling of mucus and saliva from the mouth. I administered *Lycopodium* 6,000th, one dose, and allowed it to act until the next day. Upon examination of the fauces then, and under the retching efforts of the child when depressing her tongue with a spoon, a mass of thick, dirty membrane an inch and a half long, and an inch wide, was cast off from the right tonsil upon the tongue. All other appearances of the throat were also much better, the mucous discharges from nose and mouth had nearly ceased, and all general conditions were as happily improved. Further medication being, of course, uncalled for under such circumstances, the patient was left, still on the single dose, another twenty-four hours, when there was scarcely any exudation left upon any part of the fauces, all discharges of mucus had ceased, and improvement in constitutional symptoms had been so great that I did not consider it necessary to visit the child again, but gave strict orders as to her case, and she made a most rapid recovery of all the then attending symptoms of her disease."

Case 2. "While that child was sick, the youngest child of the family, a little boy of two years, was severely attacked also with diphtheria. With him the disease commenced upon the left side of the throat, the left tonsil became greatly

swelled and covered with membrane in eighteen hours or less, and one of the external cervical glands upon that side of the neck became swelled and pushed out beyond the surrounding surface as large as a walnut. To him one dose of the 2,000th potency of *Lachesis* was administered, which, by the next day, greatly reduced the swelling, both internally and externally, as well as removed nearly all the exudation, and in two or three days more all traces of the disease were gone."

Case 3. Of a boy aged seventeen. "The attack commenced on the right side, and he still complained of nearly all the suffering being there. The tonsils were both very greatly swelled, the right the most, and the inner surface of both was covered over nearly all of their extent with a dense, dirty, or grayish membrane. His pulse was one hundred and twenty-five per minute, great complaint of 'bones ache' and great prostration, and had slept but little all night.

"Here was a case to test the efficacy of the single dose, and I gave one dose of *Lycopodium*, 6,000th, and trusted confidently to its effects for the succeeding twenty-four hours. Nor was I disappointed. The night following the patient rested much better, had a gentle perspiration most of the night; there was much less suffering, less prostration, and pulse reduced to one hundred and fifteen per minute. The condition of the tonsils and fauces were, however, little, if at all, changed, excepting that the thickest portions of the membrane, especially upon the right side, had assumed a dirty, greenish hue. But this latter fact was not allowed to decide the question as to giving more medicine. The improvement in all else had been too marked to permit of any doubt that the single dose had acted, and was still acting, most favorably, and the patient was left another twenty-four hours on that dose. Nor was this a mistake. He continued improving through that day, had a still much more comfortable night following, and a most reliable indication of improvement appeared that night, in this, that an itching of the whole exterior of the neck arose (though nothing whatever had been applied externally), and with it a more profuse perspiration of the whole surface of the body than before. The following morning I found the pulse reduced to ninety per minute, the membrane had commenced to be cast off in pieces of the size of the finger nails, the patient was partaking more freely of food, and I felt no further doubt of the final result, which was a most rapid, happy, and complete recovery, and all ac-

complished by the single dose. One or two more facts, however, remain to be added before a final closing of the case. There was more membrane cast off and expectorated by this patient than I ever saw in any other case of diphtheria; and every day, for three or four days, there was a renewal of considerable patches of exudations, each time lighter in color, until it became perfectly white, then ceased. I visited him six days in succession, and then dismissed him, free of all symptoms, excepting some remaining debility, which was fully recovered from in a few days more, and no apparent effects of the disease left. It would be a surprise to physicians who have seen the lingering convalescence, or the sad *sequelæ*, of many diphtheritic patients to see how rapidly even those who suffer the most severe attacks recover their former strength and vigor when treated in the above manner."

Case 4. "I was called two or three miles into the country to visit a young lady in her twentieth year, who had been brought down to her bed two or three days before with a most violent attack of diphtheria. Her room was, without exception, the most putrid in its odors of any that I ever entered, and the feter of her breath was intolerable. Her tonsils, uvula, and the soft palate were so swollen that it was impossible to see what were the conditions of any of the parts beyond the anterior surface of the organs named. Purulent and putrid mucus was discharged freely from the nostrils, and expectorated in large quantities from the throat, and I felt there could be no doubt that the patient was on the verge of gangrene of the tonsils, if she had not already reached that condition. The constitutional indications or symptoms of the patient were also about as alarming as those named of the local disease. Pulse was very weak and rapid, swelling of the neck and face, great pallor and expression of distress of the countenance, and other equally serious manifestations of suffering and danger.

"Here, then, were the conditions that unmistakably demanded *Lachesis*, and because it was so markedly indicated for the putrid or gangrenous tendencies of the disease, and because, also, of such disastrous results in other cases from frequently repeated doses, I determined to, and did, administer it in a single dose, in the 800th potency, and trusted to results. At my visit the next day I found that the changes that had been wrought in the twenty-four hours were truly marvelous. The terrible odor of her room of the day previous, and even of her breath, had almost wholly disappeared;

her pulse had been greatly lowered, and was both fuller and stronger; the pallor and distress of countenance had given place to a much more natural expression, and she had been able to take a little liquid food, the first in two or three days. Upon examination of the fauces I found every appearance there also greatly improved. The swelling was so much the less that the inner surface of the tonsils and posterior wall of the pharynx could be seen, and I then found the extensive membranous exudations that I was confident, the day before, must exist, but which it was impossible to get a sight at on account of the great congestion of the parts. Every other feature of the case having been so greatly relieved, and it being probable that the exudation itself had also been improved, it seemed wrong to interfere by giving more medicine, therefore the case was left to the fuller development of the curative powers of the single dose. The next day, or forty-eight hours from my first visit, every alarming or even serious symptom of the disease had given way, the membrane was much less in amount and of better color, the patient was taking much more freely of liquid food, and was rapidly gaining in strength, consequently she was left another twenty-four hours without medicine, and from that on, till her full recovery of health, she needed no more. I made her but five visits in all, and, at my last, cautioned her against exposure for many days, but on the seventh day from my visit she rode into the city to witness the departure of a regiment for the war, in which she had friends, and suffered no evil results from it, but rapidly regained all her former strength and vigor."

The author says: "The great point in the treatment of these *grave* diseases is, to my mind, to give the single dose and wait. Many a case have I seen end fatally when the proper remedy was promptly selected first, but had been frequently repeated, aggravating the disease beyond all hope of recovery. One of the worst cases of diphtheria I cured a month ago with one single dose of *Lac caninum*—the improvement set in promptly, and continued till the child was well."

Again, he says: "Did I stand entirely alone in the profession, upon this question of a repetition of doses, I should, nevertheless, insist upon the rule I have laid down none the less strenuously, as my whole professional experience of twenty-eight years sustains me in it. Having lost one case in every five to ten treated before adopting the rule, and

never having lost a case, or had an unpleasant result, out of the several hundred treated since adopting it, leaves me no alternative but to earnestly urge its adoption by others. Had I lost no more than two or three out of every hundred cases I should speak with much more reserve, but, as it is, I should be false to myself, to the profession, and to the sufferers, did I not insist upon the great importance of this method of treatment."

ERYSIPELAS.

The consideration of this disease has been generally assigned to works on surgery, owing probably to the fact that it so frequently follows traumatic lesions. But it also is frequently an idiopathic disease, and as such demands special consideration. The popular name of the disease is St. Anthony fire, from the intense dark redness of the skin. It is divided into several varieties by writers: as vesicular, simple cutaneous, phlegmonous, cedematous, and gangrenous—these names indicating more the severity of the attack than any special differences in the nature of the malady. It affects the epidermis, the cutis, and the connective areolar tissue beneath the skin. While it is generally confined to these tissues, yet it may affect mucous and sub-mucous, and also serous structures. It may attack any part of the body, yet the face and scalp are more frequently the seat of the disease. Erysipelas is classed among the eruptive fevers, or the exanthems, having like them probably a stage of incubation of varying duration.

Symptoms.—The symptoms are both general and local. The commencement of the disease is usually marked by a chill, or chilly sensations; but prior to the occurrence of the chill there is a feeling of general uneasiness, malaise, loss of appetite, aching in the back and limbs, sore throat, headache, giddiness, debility, etc. These symptoms last from six to twelve hours.

The local manifestations of erysipelas are preceded by chills, followed by fever and general constitutional disturbance. Sore throat is an early and frequent accompaniment of it. The fever may be so intense as to be accompanied by some delirium, especially at night, but usually it is of a moderate type. On the second or third day the characteristic symptoms of the disease make their appearance—redness and swelling of the skin. The redness varies in intensity from a bright red to a purple color, and the swelling is greater or

less according to the severity of the disease and its location in the tissues. In the simple form of the disease the skin is of a bright red, with or without vesicles, the swelling moderate, the fever, thirst, and pain not severe, and the disease runs its course in a few days. But in the severer forms the redness is darker, the swelling greater, with, at times, considerable œdema. There is heat, smarting, and burning pain, high fever, great thirst, and restlessness, furred tongue, scanty, high colored urine, dry skin, and high temperature ranging from 100° to 105° , pulse full and frequent, 95 to 110. When situated on the face, which is its most common location, the face swells out of all recognition, the eyelids are distended so as to completely close the eyes, the lips protrude, the ears are much enlarged, and the patient presents a pitiable and often ludicrous appearance. Generally, in the severer cases, there is more or less vesication. The inflamed surface is sprinkled with vesicles like those produced by a blister or scald, or, in still severer attacks, large bullæ, of irregular shape, make their appearance; these soon burst and form dry and thick crusts, which add still more to the deformity of the features. In a majority of cases there is inflammation, and swelling of the neighboring lymphatic vessels.

The redness and swelling may often be observed to be receding in one locality and advancing in another, so that the same individual may exhibit the different stages of the disease at the same time.

In such cases as exhibit sloughing and ulceration of the areolar tissue or show a tendency to gangrene, the symptoms become distinctly adynamic. The tongue is dry and brown. The lips and teeth are covered with sordes. There is great prostration, low muttering delirium, and in some cases subsultus tendinum, unconsciousness, and death from asthenia. In the phlegmonous variety there is a tendency to the formation of abscesses in the connective tissue, and sometimes to destruction of the tissues from gangrene. These unfavorable symptoms are more likely to occur in epidemic and hospital erysipelas than in the sporadic form of the disease, and are much more fatal.

Erysipelas lasts from a few days to two or three weeks, and in some cases even longer. Relapses are by no means infrequent.

The favorable symptoms are: decrease of temperature, abatement of the fever, subsidence of the pain, thirst, and restlessness, and gradual disappearance of the redness and

swelling; the vesicles dry up and desquamation takes place. If the deeper structures are affected the œdema and swelling gradually subside, and if abscesses have formed, the discharge gradually ceases and adhesion of their walls takes place. Suppuration is comparatively rare, I having only seen one instance of it in many years practice. If the case terminates unfavorably the symptoms resemble those of typhoid fever. The pulse increases in frequency and becomes more feeble, the tongue is dry and brown, there is low muttering delirium, and the patient dies of asthenia. When the disease attacks the face and head it sometimes extends to the brain, or its membranes, producing inflammation and effusion. This complication is usually fatal. The symptoms indicating meningitis are high fever, hard full pulse, sometimes slow, and delirium followed by coma.

Causation.—The cause is supposed to be due to some special miasm. This view is sustained by the fact that the disease is often epidemic. Whatever deranges digestion is also an exciting cause. Some individuals are predisposed to it, and any excesses in eating or drinking render them liable to an attack. In some individuals the eating of certain articles of food, particularly shell-fish, bring on the disease. It is also supposed to be contagious. When once it gets into the wards of a hospital it is very liable to spread from one patient to another, and sponges, towels, etc., used for erysipelatous patients, and afterwards brought in contact with any abraded surface of another patient, will be sure to communicate the disease. Nurses and attendants upon patients if at all careless in their ministrations, are liable to contract the malady. It is dangerous for a physician to go from a patient affected with erysipelas to the lying in chamber, unless he first thoroughly disinfect his clothing and person. The disease may also be communicated through the dejections of the patients, especially if the attack be a malignant one.

Diagnosis.—This is not difficult, especially if the type of the disease be severe. Mild cases may be mistaken for erythema. The points of difference are: in erysipelas the deeper red, the smarting, burning, stinging pain, the swelling and the appearance of vesicles are diagnostic points. In erythema the pain is slight, and there are no vesicles.

- **Prognosis.**—In isolated and sporadic cases the prognosis is favorable, especially if the disease is confined to the superficial tissues. Other things being equal erysipelas is more dangerous when it attacks the face and scalp than when other

parts of the body are affected, on account of the greater liability to meningeal inflammation. In phlegmonous erysipelas, particularly in the vicinity of the throat, the prognosis should be guarded especially if there is œdema of the tissues. In the latter case there is some danger of infiltration of the submucous tissue of the glottis, thereby seriously impeding respiration. The prognosis is less favorable in epidemics than in sporadic cases. Some epidemics show a large percentage of mortality.

Treatment, local.—There is great diversity of opinion as regards local applications. Some Homeopathic physicians totally discard them, and depend wholly upon specific medication. It is important that a uniform temperature be maintained in the sick room, and the patient be protected from draughts.

The severe itching and burning may be relieved by powdering the inflamed surface with dry flour. Covering the parts lightly with a thin layer of cotton wool will serve to protect from draughts. I have been in the habit of penciling around the inflamed parts with *Tincture of Iodine*, with the view to arrest the further spread of the disease, and I think the practice beneficial.

The chief remedies are *Belladonna*, *Rhus*, and *Apis*. Remedies of secondary importance are *Arsenicum*, *Carbo veg.*, *Lachesis*, *Cantharis*, *Secale*, *Camphor*, *Opium*, *Hepar*, and *Silicia*.

I have rarely used other remedies than the three first named. There may be in some instances special indications requiring the administration of the other remedies named, but the symptoms of the large majority of cases are completely covered by the pathogeneses of *Belladonna*, *Rhus*, and *Apis*.

BELLADONNA is indicated in simple cutaneous erysipelas, unattended with formation of vesicles, or with much subcutaneous swelling; the skin is bright red, smooth, and shining. There is moderate fever, dry tongue, thirst, restlessness, and sore throat. It is also indicated in meningeal inflammation with high fever, rapid pulse, and delirium. *Belladonna* is especially indicated if the disease first attacks the right side.

RHUS TOX is more especially adapted to vesicular and phlegmonous erysipelas. The skin is dark red, and covered with vesicles; burning and itching; great swelling of the inflamed tissues; fever; rapid pulse; restlessness. *Rhus* is also called for in the adynamic form of the disease,

with muttering delirium; sordes on the teeth and lips; dry, brown tongue; feeble, rapid pulse; diarrhœa.

APIS is indicated if there is subcutaneous œdema; swollen, œdematous eyelids; œdema of the fauces and glottis; smooth, glistening red skin; dryness of mouth and throat; red, dry tongue. Other symptoms are puffiness of the lips and ears; swelling of the scalp; scanty, painful urination.

ARSENICUM is indicated if gangrene is threatened, or for great exhaustion of the vital forces. The special symptoms are: quick, wiry pulse; extreme restlessness; livid color of the inflamed tissues.

LACHESIS is indicated in erysipelas of old people, attended by prostration and depression of the vital forces.

CANTHARIS may be given as an intercurrent remedy, if there is extensive vesication with tendency of the vesicles to run together into large blebs.

SECALE will sometimes prove efficacious in averting threatened gangrene.

CAMPHOR may also be given intercurrently, if there is great exhaustion, coldness of the skin, weak and almost imperceptible pulse. It should be given in low potencies and be frequently repeated.

OPIMUM is indicated in meningeal inflammation when the symptoms indicate effusion and pressure on the brain. Drowsiness and coma; slow, full pulse; inarticulate mutterings; contracted pupils; slow, heavy, labored breathing, are the symptoms calling for its administration.

HEPAR SULPHUR. — If there is evident tendency to the formation of abscesses, it is advisable to give *Hepar sulphur* at once, in order, if possible, to arrest the suppurative process. If pus, however, should form it should be promptly evacuated by incision as soon as fluctuation is perceived. The incision should be free, and in the most dependent portion of the abscess. A delay to do this may involve the loss of the patient, for the pus has a tendency to burrow along the muscles and to form extensive sinuses unless speedily evacuated.

SILICIA is indicated after an abscess has formed.

For the sequelæ, which occasionally retard recovery, such as persistent redness, swelling, and œdema, *Apis*, *Lycopodium*, *Sulphur*, *Graphites* and *Staphysagria* will prove beneficial.

APIS for œdema, swelling, or conjunctivitis.

LYCOPodium and SULPHUR for persistent redness.

GRAPHITES for continued irritation of the tarsal edges of the eyelids.

CARBO VEG. is also a valuable remedy when there is much prostration, with danger of a fatal termination by asthenia.

There is a variety of the disease, to which individuals with peculiar idiosyncrasies of constitution are liable, which is called wandering erysipelas. It gives rise to no severe constitutional symptoms and is brought on by errors in diet, exposure to cold or wet, or from eating certain kinds of food. These cases are of a very persistent nature and frequently last through life. The best remedies are careful attention to hygienic rules, and avoidance of those things which experience has shown to act as exciting causes. *Pulsatilla* is alleged to control the attacks and to prove prophylactic against their recurrence. I should advise that it be used in a high potency and at long intervals. I have also used *Rhus*, 200, with good results in these cases.

PURPURA.

Purpura was placed by Willan in the class of exanthems. He described five varieties of it; namely, purpura simplex, purpura urticans, purpura hemorrhagica, purpura senilis, and purpura petechialis. More recently, nosologists have considered the disease under two heads—purpura simplex and purpura hemorrhagica. The first variety is extravasation of blood in the cutis, and is frequently a disease of but little gravity. The second is of graver import, for in addition to the cutaneous hemorrhage, blood is poured out freely from the mucous membrane of the mouth, nostrils, intestines, bladder, etc.

Purpura simplex, symptoms.—A number of spots or patches make their appearance on the skin, the color varying from a bright red, especially in the beginning of the disease, to a violet, deep purple, or blackish tint. At first the spots have well defined outlines, but as the disease advances they become merged and lost in the surrounding tissue. The discolored spots are not raised above the surrounding surface. Occasionally there is an escape of bloody serum which appears as vesicles or blebs on the surface.

The colored spots vary in size and are designated by various names. Sometimes they are mere points, *stigmata*. When of large size they are called *petechiae*. If the length much exceeds the width they are called *vibices*; and *ecchymoses* when of large, irregular dimensions.

The spots of purpura first appear on the legs and then on the trunk. As the first eruption fades away another takes its place. The eruption is sometimes attended by pains in the muscles, and around the joints, resembling the pains of rheumatism. There is usually a feeling of lassitude and debility. Epistaxis is not infrequent.

Purpura hemorrhagica.—This variety is a much more severe and dangerous form of the disease. The cutaneous symptoms much resemble those of purpura simplex, but in addition to cutaneous hemorrhage there is a flow of blood from the mucous membranes of the nose, mouth, stomach, intestines, urinary track, etc. Bleeding occurs most frequently from the nasal passages, and in some cases is very profuse.

Hemorrhage from the gums is not so frequent as in scurvy. Hæmaturia is a frequent symptom, and the blood may come from the kidneys, the ureters, or the bladder.

Occasionally extravasation of blood occurs in the parenchyma of the lungs and into the cerebral substance, causing death from pulmonary or cerebral apoplexy. In fatal cases blood may be found effused into the peritoneal cavity, between the arachnoid and pia mater of the cord and brain and into the muscular and glandular tissues.

The disease may attack a person while apparently in good health, or it may be preceded for some time by feelings of debility and languor and pains in the limbs and joints.

The hemorrhage is accompanied by a sensation of great weakness. The pulse is feeble and quick, the countenance pale and anæmic. As the disease progresses more decided symptoms of anæmia manifest themselves. The mucous membranes become pale and bloodless, there is tinnitus aurium, shortness of breath, feelings of faintness and exhaustion, and faintness or syncope; digestion in some cases is impaired, with tenderness in the epigastrium, nausea, and either constipation or diarrhœa.

Purpura may occur during the course of or be a sequel to other diseases, particularly chronic Bright's disease, and the eruptive and continued fevers. Its duration varies from a few days to several months.

Causation.—Predisposing causes are impure air; innutrition from indigestion or insufficient food; intemperance, and miasmatic influences. Certain chronic diseases such as cirrhosis and atrophy of the liver, Bright's disease, etc., are also supposed to favor its development. The disease frequently

occurs as a sequela to scarlatina, small-pox, measles, and rheumatic fever.

It is highly probable that the chief cause is degeneration of the capillaries on the one hand, rendering rupture of them likely to occur, and obstruction to the passage of blood through the liver on the other, thereby increasing the pressure in the vessels.

Diagnosis.—Purpura can be distinguished from the non-hemorrhagic eruptions by the color not disappearing on pressure; from typhus fever by the antecedent symptoms; and from scurvy, with which it is most liable to be confounded, by the prompt relief afforded in the latter disease by the use of vegetables and vegetable acids, which is not the case in purpura. In scurvy the gums are swollen, soft, spongy, and tender, which is not the case with purpura.

Prognosis.—The prognosis is favorable in purpura simplex. Purpura hemorrhagica is a dangerous disease, and the prognosis is grave.

Death occurs from exhaustion in consequence of excessive loss of blood, or may occur from pulmonary or cerebral apoplexy.

Treatment.—The general condition of the patient should be carefully noted, and whether the disease results from some unfavorable diathesis, or from innutrition, unhealthy surroundings, or malaria. On account of the wide diversity of conditions antecedent to the hemorrhage of the cutis, which gives name to the disease, it is difficult to give special indications for treatment. The remedies which are pathogenetic to the morbid condition of the blood and its vessels are: *Crotalus*, *Hamamelis*, *Phosphorus*, *Lachesis*, *Rhus tox*, and *Secale*.

CROTALUS.—Ecchymoses, hemorrhage from all the openings of the body, from the gums, and even from the fingernails. *Crotalus* tends to disorganization of the blood, and destruction of blood fibrin, hence produces that condition of the system ending in oozing of blood through the capillary vessels. It is indicated more particularly in purpura hemorrhagica.

PHOSPHORUS has been successfully used in purpura. In the transactions of the New York State Homeopathic Medical Society, Dr. C. W. Boyce reports a cure with *Phosphorus*: The symptoms of the case were ecchymoses on all parts of the body; ecchymoses following the slightest contusion; profuse bleeding from slight abrasions of the skin; oozing of

blood from gums and whole buccal cavity; bloody saliva, filled with shreds of decomposing blood; offensive odor from the mouth; rapid pulse. Two doses of *Phosphorus*, 200, given two days apart, effected a prompt cure. Soon after the administration of the second dose, improvement began and recovery soon followed.

Hahnemann gives the following symptoms of *Phosphorus*: Small wounds bleed much, the gums bleed easily, swelled and easily bleeding gums, bloody saliva, hemorrhage from the rectum, extravasation of blood from all the tissues.

Rhus tox is indicated in the treatment of purpura simplex. I have treated successfully several cases with it.

Cinchona is indicated if a malarial cachexia appears to be the exciting cause, or if the patient is much debilitated from loss of blood.

If the hemorrhage is profuse and exhausting, hæmostatics, such as *Monsel's solution*, etc., should be applied to the bleeding surfaces, or, in case the flow is from the womb or nose, a tampon should be applied. Injections of *ice water*, and solutions of *Tannin* or *Hamamelis* are often useful.

Purpura of the extremities may sometimes be arrested by careful bandaging of the part.

CHAPTER VI.

RHEUMATISM, GOUT, AND RHEUMATOID
ARTHRITIS.

ACUTE ARTICULAR RHEUMATISM—DEFINITION—SYMPTOMS—CAUSATION—
DIAGNOSIS — PROGNOSIS — TREATMENT. CHRONIC RHEUMATISM—
TREATMENT. MUSCULAR RHEUMATISM—VARIETIES OF—CAUSATION—
DIAGNOSIS — PROGNOSIS — TREATMENT. GOUT—DEFINITION—SYMPTOMS — CAUSATION — DIAGNOSIS — PROGNOSIS — PATHOLOGY—TREATMENT. RHEUMATOID ARTHRITIS—DEFINITION—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

ACUTE ARTICULAR RHEUMATISM.

RHEUMATISM is one of the most painful and severe diseases known. It is more prevalent in the Eastern states than in the Southern and Western, and in Great Britain is much more common than in this country. It is supposed to arise from some abnormal condition of the blood. It is not limited to one organ or tissue, but affects chiefly the fibrous tissue which forms the aponeuroses, fasciæ, tendons and ligaments as well as the serous membranes. The parts of the body most frequently attacked are the joints and surrounding structures, and the serous membranes forming the pericardium and endocardium. The disease is both acute and chronic. Acute articular rheumatism is a disease characterized by fever, profuse acid sweats, and inflammation of the fibrous tissues surrounding the large joints. It is dreaded from the intense pain it occasions, the severity of the fever, the long duration of the disease and the danger of metastasis to the heart.

Symptoms.—The first symptoms are chilliness or rigors, succeeded by fever with restlessness, soon followed by stiffness of the joints affected, with aching pain in the limbs and joints. The pain quickly increases in severity, and is accompanied by swelling, redness, and tenderness of the joints affected, together with high fever, thirst, great restlessness, and nervous irritability. When the inflammatory action is severe the suffering is extreme; the slightest motion causes intense pain, and

yet the restlessness is so great that rest is intolerable, while motion is agony. The patient cannot bear to be touched, and even the weight of the bed-clothes is insupportable. I have had patients so sensitive as to scream at the approach of any one to the bedside, from mere fear of being touched. The face is flushed, hot, and moist; the skin is bathed in sweat of a musty acid odor, but which gives no relief. The pulse is hard, full, and quick; the heat of the body frequently is intense. The thermometer shows a temperature ranging from 100° to 104° , and in very severe attacks to 106° . In some fatal cases it has risen as high as 109° and 110° before death. The urine is scanty, high colored, and loaded with uric acid or urates, the thirst is extreme and never satisfied, the tongue is covered with a thick whitish fur, the bowels are usually constipated. The disease is very liable to shift from place to place; to-day it is in one joint, to-morrow in another, and it may go the round of all the large joints in succession.

A certain order of attack is frequently observed; first one ankle is affected then the other; then one knee and afterwards the other, and so on with the other joints.

There is also a tendency in the disease to subside in one part while it attacks another. A joint may be red, swollen, and exquisitely painful and tender one day, and the next the symptoms will almost completely disappear, to reappear in another part.

In a large percentage of cases of articular rheumatism the structure of the heart is involved, resulting in pericarditis and endocarditis. These affections of the heart were formerly considered as a metastasis, or a complication of rheumatism, but the more modern opinion is that they are an essential part of the disease. There is difference of opinion as to the kind of cases of rheumatism most likely to be followed by cardiac inflammation, some holding that only in the severe forms of the disease is the heart liable to be affected, and others, that slight attacks may be followed by serious lesions of the heart.

It is not easy to determine the relative frequency of cardiac affection in rheumatism. The proportion varies, according to different observers, from one-half to one-fifth of the cases.

When rheumatism attacks the heart we have either pericarditis or endocarditis, diseases which demand a separate consideration, as they do not in their course and symptoms differ materially from inflammations of other serous membranes. In all severe cases of acute rheumatism the heart

should be frequently examined for signs of inflammatory action. Rheumatism may also be complicated with bronchitis, pleurisy, pneumonia, and inflammation of the meninges of the brain. The average duration of acute rheumatism is twenty days, ranging from twelve to thirty days. If fatal, the result is almost always due to coincident disease of the heart. If the heart remains unaffected, the recovery may be perfect, but there is always a liability to a recurrence of the disease. If the heart is affected, it seldom recovers its normal condition, entailing upon the patient the usual result of organic affections of that organ, namely, palpitation and dyspnoea on unusual exertion, and finally a permanently impaired condition of it.

Rheumatism does not, like pneumonia or continued fever, pursue an uninterrupted course from beginning to end. There are often notable remissions in the disease, and when the physician congratulates himself on his victory over it, the symptoms return with perhaps increased severity. And this may occur repeatedly during the course of the disease.

Causation.—The disease is generally attributed to exposure to wet and cold, but careful examination will show this in many cases not to be the cause. It is generally conceded now that there is a special predisposition requisite to develop the disease, and that exposure is the exciting cause. This predisposition may be inherited or acquired. Many people are continually subject to the disease, and rarely go through a winter without an attack more or less severe. It is much more common in wet, changeable climates, and during the first thirty years of life. If a person reaches the age of forty without an attack of rheumatism he is tolerably certain to escape thereafter.

Dr. Aitken says in regard to climate as a cause of rheumatism: "It is not in the coldest climate that rheumatism is most prevalent, but in those seasons and those climates remarkable for damp and variable weather." The disease is more prevalent during the winter than the summer months.

Diagnosis.—The diagnosis of rheumatism is not difficult. It is only liable to be confounded with rheumatic-gout, local affections of the joints, and with sciatic neuralgia.

The chief points to be considered as diagnostic are: the great amount of constitutional disturbance, the shifting of the inflammation from joint to joint, the tendency to inflammation of cardiac structures, and the copious acid perspiration.

Gout is usually confined to the smaller joints, and does not shift from place to place.

Prognosis.—The prognosis is generally favorable. The disease is seldom fatal, and in a first attack the danger to life is very small. When rheumatism proves fatal, it is either from acute disease of the heart, or, as more seldom happens, death may result from meningeal inflammation.

But though seldom immediately fatal, it often lays the foundation for serious chronic maladies which eventually terminate fatally. The most serious effect of the disease is endocarditis, which may be the beginning of lesions of the heart, which often prove incurable.

Another serious consequence of endocarditis is the formation of fibrinous clots and vegetations in the cavities of the heart, which carried into the circulation are liable to plug up some cerebral vessel and cause paralysis or immediate death.

Treatment, local treatment.—The affected joints may be covered with flannels wrung out of hot water in case the pain is excessive, and their application often affords marked relief. Enveloping the joints in dry cotton wool is frequently beneficial. Friction with the hand applied systematically and perseveringly often alleviates the pain, and leaves the patient comparatively comfortable. I also use a lotion composed of one part *Tinc. aconite*, three parts *Chloroform*, and four parts *Alcohol*, with excellent results. If the joint is much inflamed and the articular faces tender, stretching the limb has been recommended.

The remedies for acute articular rheumatism, are *Aconite*, *Bryonia*, *Colchicum*, *Pulsatilla*, *Propylamin*, *Rhus*, *Actea*, *Caulophyllum*, *Salicylic acid*, and *Salicylate of Soda*.

ACONITE is not generally adapted to rheumatism, yet if the fever is synochal, with full, strong pulse, a few doses of it are useful to moderate the inflammatory action.

BRYONIA is one of the leading remedies. The symptoms are swelling and redness of the joints which are exceedingly painful, pain much increased by the slightest motion, great thirst, rapid pulse, face flushed and hot, tongue covered with a dirty white fur, loss of appetite, urine scanty and dark, with reddish sediment. It is particularly indicated when the disease extends to the pericardium or endocardium.

COLCHICUM is better adapted to the sub-acute form of rheumatism, but is sometimes useful in the acute form, especially if the disease is confined to the smaller joints of the hands and feet. I have often derived benefit from it. I put five

drops of the first dilution in one-half glass of water, and give a teaspoonful once in two or three hours.

PROPYLAMIN.—Some years ago a Russian physician asserted that he had discovered a specific for acute articular rheumatism, in a substance distilled from herring brine which he named propylamin. Allen in his great work gives a short proving of it, which proving does not show a pathogenetic relation to the symptoms of rheumatism. The proof of its virtues rests almost wholly on clinical experience. The dose is five drops every two hours taken in a tablespoonful of water. I have used the remedy with varying results. In some cases it promptly relieved the patient.

RHUS TOX is adapted to cases in which the fever assumes an adynamic type, with great restlessness, increased pains on lying in one position, and constant desire for change of position, with temporary relief on changing; red shining swellings of the joints; pulse rather weak and rapid; urine not so scanty nor perspiration so copious as in *Bryonia* symptoms.

ACTEA is highly recommended by Hale in rheumatism of the lower extremities, and especially in muscular rheumatism of the back and neck. It is also recommended as a lotion. It compares favorably with *Bryonia* in its curative action in cardiac complications.

MERC. SOL.—In some cases of rheumatism with profuse sweating without relief, with pains aggravated at night, and especially if there is a syphilitic taint, with soreness of the periosteum, *Merc. sol.* will often afford prompt relief.

DIGITALIS is recommended in cardiac complications with dyspnœa, and feeble, irregular pulse. It is not indicated in uncomplicated rheumatism.

CAULOPHYLLUM is useful in rheumatism of the small joints, particularly of the wrists and finger joints, with rapidly shifting pains; great pain and swelling of the joints affected; great stiffness of the fingers.

SALICYLIC ACID.—This remedy has lately been largely used in the treatment of rheumatism, and by the other schools has been administered in enormous and occasionally fatal amounts. It has been considered almost a specific. Given in doses of from two to six grains, once in six hours, it often relieves the more distressing symptoms in two or three days, and lessens the probability of cardiac complications.

SALICYLATE OF SODIUM is perhaps more frequently used, and with better results than the acid. Raue gives the following indications: inflammatory rheumatism of the joints with great

swelling and redness, high fever, and excessive sensitiveness to the least jar; motion impossible.

The diet in rheumatism should be light and chiefly of liquid food, such as milk and broths; as the patient improves the amount and quality of the food may be gradually increased.

Care should be taken to avoid draughts or any sudden check to perspiration, for although free sweating does not relieve the pains, yet its sudden suppression may be followed by unfavorable symptoms, and lead to cardiac complications.

When persons have once had acute rheumatism they are liable to future attacks, hence the necessity for extreme care as regards clothing. They should always wear flannel under-clothing, and sedulously guard against exposure to wet and cold.

CHRONIC RHEUMATISM.

This is sometimes the sequel of acute rheumatism, but is more often an independent constitutional affection, existing without any previous acute attack. During the decline of life many are affected by it. It is liable to follow long continued gonorrhœa, and one variety is called gonorrhœal rheumatism.

It affects chiefly the fibrous textures around the joints, the sheaths of the nerves, aponeuroses of the muscles, the fasciæ, tendons, and periosteum. The symptoms are not severe at first; there is not much constitutional disturbance; there are slight pains in the structures affected, which are generally worse at night, causing restlessness, and loss of sleep. The pains gradually increase in severity until they are a constant source of discomfort. There is seldom any fever accompanying this form of rheumatism, nor is the general health of the patient in mild cases seriously affected.

The treatment differs but little from that of acute rheumatism. It is a much more intractable affection, and requires time and patience as well as careful discrimination in the selection of remedies.

MUSCULAR RHEUMATISM OR MYALGIA.

Muscular rheumatism is an affection of the voluntary muscles. It may attack any of them, but is more apt to attack certain sets rather than others. The muscles most frequently affected are those of the back, neck, and chest.

Muscular rheumatism is unaccompanied by fever, swelling,

redness, or heat. It commences usually as an acute disease, but is very liable to pass into the chronic form; the attacks are frequently sudden; they may come from a sudden wrench, or the patient may wake from sleep and find himself incapable of rising or turning in bed, or turning his neck around without spasms of acute suffering. In the less severe form the patient is comparatively comfortable when quiescent, but any attempt to move the affected muscles causes severe pain. Sometimes there is some soreness and tenderness on pressure, but on examination no external marks of inflammation are observed. There is little or no constitutional disturbance at first, but if the pain continues long, and is severe, there is usually some thirst, loss of appetite, and debility.

The duration of the disease is from three days to a week, but frequently after the acute symptoms have subsided, there is for an indefinite period more or less sensitiveness of the muscles.

The principal varieties of muscular rheumatism are, *lumbago*, *torticollis*, and *pleurodynia*.

Lumbago.—*Lumbago* affects the muscles on each side of the spine in the lumbar region. This variety is the most severe and painful of all, often causing most excruciating suffering, and entire helplessness; acute pain being caused by the slightest effort to move.

Torticollis.—*Torticollis*, or wry neck, affects the muscles of one side of the neck; chiefly the sterno-cleido-mastoid. It compels the patient to hold the head downward and sideways to relax the muscles, and all efforts to move the head are painful.

Pleurodynia.—*Pleurodynia*, or intercostal rheumatism, is that variety in which the intercostal muscles are implicated. The symptoms are acute pain in some part of the chest rendered more severe by the act of breathing. The muscles of the head, abdomen, scapula, back, limbs, etc., may be the seat of rheumatic pains.

It is generally considered that it is not the muscular fiber which is affected but the fibrous tissue which envelops the muscles, or their sheath. Dr. Flint considers that myalgia or muscular rheumatism is more properly neuralgia, as the disease has not the pathological conditions which are found in true rheumatism. In myalgia there is no fever nor swelling, and seldom any pain when the muscle is at rest. The patient is always better at night, whereas the reverse is the case in rheumatism. The pain is aggravated by motion, and

is of a burning benumbing character. This last symptom would seem to indicate the neuralgic character of the affection.

Causation.—Age largely determines the development of muscular rheumatism, it being much more common in middle and advanced life than in youth. The most frequent exciting causes are sudden muscular effort, over use of the muscles, and partial exposure to cold and damp, such as allowing a current of damp cold air to strike some portion of the body while the remainder is protected. Lying on the floor or damp ground is apt to induce the disease in susceptible individuals. One attack is very liable to be followed by others.

Diagnosis.—Intercostal rheumatism may be mistaken for pleurisy, or intercostal neuralgia. Pleurisy may be distinguished by the acceleration of the pulse, the increase of temperature, and the physical signs attending it. Intercostal neuralgia may be recognized by the presence of the tender spots characteristic of neuralgic affections.

Lumbago may be mistaken for urinary or kidney disease, but a careful examination of the urine will determine the diagnosis.

Prognosis.—Muscular rheumatism is unattended with danger to life, though it frequently proves to be an obstinate and intractable disease.

Treatment.—Persons who have once suffered from an attack of myalgia, should be careful to avoid exposure to cold and damp, and to draughts of air from windows and doors. Flannel should be habitually worn next to the skin.

The remedies are *Aconite*, *Bryonia*, *Berberis*, *Actea*, *Caulophyllum*, *Cactus*, *Colchicum*, *Kalmia*, *Lachnanthes*, *Lycopodium*, *Rhus*, *Spigelia*.

ACONITE is useful in attacks of pleurodynia, with sharp lancinating pain, worse on deep inspiration; darting pain in the cardiac region.

BRYONIA, is especially indicated in lumbago, but will also prove useful in rheumatism of the intercostal, scapular, and deltoid muscles. After repeated trials with various potencies, I am convinced that the first decimal dilution acts most promptly and efficiently. The symptoms requiring *Bryonia* are pains in the chest, tearing stitches in left side of the chest which extend from behind forward, relieved during rest and aggravated during motion and deep inspiration; sharp sticking pain below the right nipple, extending outward in the thorax; short but violent stitches in the right side of chest, rendering

breathing very painful; sharp pain in the left infra mammary region, worse during inspiration; pain in the scapular region; rheumatic pain in the back under the scapula; violent stitches under right scapula.

Lumbago: pain in the small of the back making walking very difficult; drawing pain in the loins, making motion almost impossible; the patient is unable to turn himself in bed; severe pain in back much increased by rising, turning, or moving the legs; great soreness and tenderness in the lumbar region.

BERBERIS.—Rheumatic pain in right shoulder; sticking pain in the lumbar region confined to a small spot; tensive pain in the region of the kidneys, and across the small of the back; violent, burning, sudden stitches across the loins; pain in the small of the back as if it were *crushed* and *bruised*.

ACTEA is pathogenetic to muscular rheumatism of the neck, chest, and uterus. It is indicated in pleurodynia of right side of the chest; wry neck with a feeling of stiffness in the affected muscles; rheumatism affecting the belly of the muscles; great soreness of the muscles. *Actea* is also curative in rheumatic pains of the uterus and ovaries.

CAULOPHYLLUM.—Shifting flying pains in the muscles of the arms and legs.

CACTUS is indicated in lancinating pains in the pericardium and heart, with sense of constriction as of a band around the heart. Acute pains and stitches in the heart, with irregular action.

KALMIA.—Rheumatism of the deltoid muscle. Rheumatic pains in the right leg extending to the foot.

LACHNANTHES is indicated in wry neck. Hale gives in his provings of *Lachnanthes*, stiffness of the neck, sensation as if sprained in the neck when turning the head or moving it backwards.

LYCOPODIUM is indicated in lumbago after *Bryonia*, if the latter fails to relieve. It is more useful in the chronic form and for patients of advanced years.

RHUS TOX is indicated in chronic myalgia aggravated by exposure to wet, cold weather, and which is relieved by exercise. The pain is severe on first moving about, but afterward is relieved; the pain is worse at night and in wet, stormy weather.

SPIGELIA is useful for rheumatic stitches in the pericardium and muscular tissue of the heart.

GOUT.

(*Synonym*, PODAGRA.)

Gout is a specific constitutional disease frequently hereditary, affecting the smaller joints of the body which are intensely tender and painful, and accompanied by uric acid in the blood and the deposition of urate of soda in the affected tissues.

Gout is generally considered under two varieties. When the joints are solely or principally involved the disease is called regular gout; but when other organs and tissues are involved the affection is known as irregular gout.

Symptoms.—The attack may come on suddenly, or be preceded by precursory symptoms, as indigestion, flatulency, heartburn, dull pains in the chest, irregular action of the heart, dry and hot skin, and excess of urates in the urine. In many cases the attack is sudden. The patient retires to rest in his usual health and is awakened in the night with severe burning and throbbing pain in the ball of the great toe, or in the heel, or thumb. The affected part is swollen, red, and exquisitely tender to the slightest touch, so that the least pressure of the bed-clothes, or even jarring the bedstead is intolerable. There is often a slight chill followed by some fever, loss of appetite, thirst, furred tongue, scanty urine which contains an excess of uric acid. The urine deposits on cooling a sediment varying in color from pale buff to brick-dust color. The veins proceeding from the toe are turgid with blood and the joint is stiff. Usually the inflammation and pain subside during the day to recur again the succeeding night and, perhaps, the third night, the patient obtaining relief during the day. In a few days the attack passes off, the pain and inflammation subside, the constitutional symptoms disappear, the cuticle over the inflamed parts peels off and the patient regains his general health, and, indeed, feels more buoyant and vigorous than before the attack.

In some cases the attack assumes a milder form, particularly in women, and in individuals of weak constitutions, or who have been debilitated by excesses; but while the pain, swelling, and constitutional disturbances are not severe, yet the ultimate consequences are fully as serious.

After an interval of one or two years the disease again attacks the victim; and with each recurrence the intervals shorten from a year to six months until at last the visitations

are numerous and frequent, and leave the patient but few intervals of exemption.

With each succeeding attack the number of joints implicated becomes greater, until at last almost every joint of the extremities suffers; the lower joints being more liable to be affected than the upper.

Edema of the affected part is generally present, caused by the infiltration of serum into the cellular tissue. Suppuration, however, never occurs in acute attacks of gout. The joint may be intensely red, swollen almost to bursting, the skin glistening from the distension, yet it always subsides by resolution instead of by suppuration.

The ball of the great toe is the part affected in a large majority of cases. Out of 512 cases collected by one writer, the great toe was the seat of the disease in 373.

After repeated attacks of gout the joints become permanently stiffened, or may even become ankylosed.

CHRONIC GOUT.

When the attacks not only become more frequent but of much longer duration, and when well marked changes occur in the affected joints, the disease has assumed the characters to which the name of chronic gout is applied. The actual pain is, perhaps, not quite so intense as in the acute form, but the constitution becomes impaired, digestion deranged, the joints become rigid and ankylosed, and chalky concretions of urate of soda form around the joints, causing suppuration and ulceration of the skin. Occasional discharges of concretions take place, with manifest relief to the patient. Great distortion of the joints often occurs in chronic gout. The ligaments are infiltrated with deposits of urate of soda, causing extreme suffering, but when the bursæ are also filled with deposit, enlargement of the joint takes place, causing considerable deformity.

Small deposits are occasionally found in other situations; sometimes under the skin, and along the tendinous aponeuroses of the muscles of the leg and thigh.

The constitutional disturbances most frequently present in chronic gout are indigestion, flatulence, heartburn, torpidity of the liver, constipation, palpitation and irregular action of the heart, nervous depression, twitching of muscles, etc.

The urine is usually pale, of low specific gravity, and contains a little albumen.

In irregular gout, or that form attended with affections of

internal organs, the heart, stomach, brain, and kidneys are most liable to be affected. The skin is also sometimes affected, psoriasis, eczema, prurigo, and acne being the affections most frequently observed.

The complications liable to occur are: functional disorders of the heart, as dyspnoea, palpitation, and sense of constriction; severe headache, epilepsy, acute mania and neuralgia, particularly of the nerves of the heart and stomach.

Causation.—The predisposing causes are hereditary tendency, luxurious habits of living, especially indulgence in rich and highly seasoned meats, strong wines and malt liquors, sedentary habits, mental overwork. The exciting causes are anxiety, any sudden shock, exposure to cold and damp, acute indigestion, lead poisoning, etc.

Men are more subject to the disease than women, and the middle-aged more than the young. The disease rarely occurs before the age of thirty, and only in individuals who have a transmitted tendency.

Diagnosis.—The diagnosis is usually made without difficulty. The disease with which it is most liable to be confounded is articular rheumatism. The history of the case, the sex, and the habits of the patient are determining points. Gout attacks only one or two joints, the ball of the great toe being in a large majority of cases the first affected, while rheumatism affects many and large joints. In gout the blood contains uric acid in excess, which is not the case in rheumatism. In chronic gout there is a deposition of urate of soda around the joints, which does not occur in rheumatism. Gout occurs mostly in men, and after the age of forty years. Rheumatism is common to both sexes, and at any age.

Prognosis.—As regards duration of life, the prognosis is favorable. Rarely does an attack of acute gout prove fatal. The greater the age at which gout first appears, and the longer the intervals between the paroxysms, the more favorable the prognosis, but if the disease attacks the patient early in life, and the paroxysms recur at short intervals, the future prospects are bad. In either case the prognosis largely depends upon the modes of life and diet of the patient.

Pathology.—It has been shown that one of the conditions of gout is an excess of uric acid in the blood, or, rather, of urate of soda, and that gouty inflammation is invariably accompanied by the presence of urate of soda in the inflamed tissue.

The deposition of urate of soda in the tissues is caused by

its insolubility, and this may arise either from the large amount which is formed, or from the serum of the blood becoming less capable of holding it in solution. Dr. Garrod explains why the deposit of urate of soda, and consequent gouty inflammation, generally occurs at points most remote from the heart. He says: "The great toe contains a considerable amount of tissues peculiarly liable to become the seat of the deposition of the urate of soda; as, for example, the cartilages and ligaments, tissues having either little vascularity, or nourished independently of blood vessels; the great toe being very remote from the heart, the circulation is weaker there than in many other parts—weaker than in the hips or knees. These remarks, however, both with regard to the tissues, and the distance from the heart, apply even with greater force to the phalangeal joint of the great toe than to the metatarso-phalangeal joint, and apply also to the joints of the smaller toes; but on the other hand, this latter joint is more subject to injury by pressure—it often has to bear the whole weight of the body, and sudden shocks, as for instance from false steps, are first felt in this articulation. In cases where the great toe has not been attacked, some peculiarity has been present in the conformation of the foot, which has had the effect of throwing the pressure on some other part.

"In explanation of the reason why numerous joints are attacked as gout gains ground, or becomes more engrafted into the system, it may be advanced that the cartilages and ligamentous structures of the earlier implicated articulations being infiltrated with the urate, and the blood still remaining impure from the presence of the salt, other surfaces are selected."

Treatment.—The principal remedies are *Aconite*, *Colchicum*, *Cal. carb.*, *Sabina*, *Carbonate of Lithia*.

ACONITE may be administered if there is considerable fever and increase of temperature together with swelling, heat, and redness of the affected joint.

BÖNNINGHOUSEN highly recommends SABINA in the treatment of gout, and says he found it a most efficient remedy.

COLCHICUM has been considered a specific for gout for many years, but has usually been given in large doses, producing great constitutional disturbance; obstinate diarrhoea, vomiting, etc. In small doses it is equally efficient in controlling the paroxysms of gout. It may be given in five-drop doses of the first decimal dilution once in three hours.

CARBONATE OF LITHIA has also proved a very efficient remedy in gout. It is a powerful solvent of uric acid, and its remedial action consists in eliminating the acid from the blood, thus removing the exciting cause of the disease. Five grains may be given three times a day. It may be administered largely diluted with carbonated water.

The acute pain may often be relieved by wrapping the affected part in layers of cotton wool, and then covering the whole with oiled silk so as to exclude the air.

To prevent a recurrence of the paroxysms, and to prevent the disease from passing into the chronic form, a radical reform in the habits of the patient is necessary. The use of ale, beer, and porter, strong wines, and distilled liquors must be completely abandoned. Rich, highly seasoned food should be avoided. The diet though plain should be nutritious. Exercise in the open air is essential. In short, hygienic treatment is of much more value than medicinal.

The remedies for chronic gout are: *Ammonia phos.*, *Calc. phos.*, *Causticum*, *Lycopodium*, *Sulphur*.

RHEUMATOID ARTHRITIS.

(*Synonym*, RHEUMATIC GOUT.)

This is an affection bearing resemblance to both rheumatism and gout, but having certain characteristics of both diseases. By one writer, Heberden, it is called nodosity of the joints; by another, Dr. Adams, chronic rheumatic arthritis.

The affection may be either acute or chronic. Dr. Flint remarks in regard to the pathological anatomy: "The anatomical characteristics which distinguish it from rheumatism and gout are as follows: A larger accumulation within the affected joints of synovial liquid which in the course of the disease is absorbed; absorption of the inter-articular cartilages, eburnation of the ends of the bones denuded of cartilage, and enlargement of the ends of the bones by the deposit of bony matter; the formation of cartilaginous bodies, which either remain attached to the synovial membrane or are found loose in the cavity of the joint. With these changes is associated more or less thickening of the synovial membrane and ligaments. The ligaments are not infrequently elongated by prolonged distension from the synovial liquid, and complete or incomplete dislocations are apt to follow. The so-called chalky deposit of gout is wanting; but rheu-

matic gout may occur in persons who have this deposit, as an effect of previous attacks of gout. A peculiar distortion of the fingers is characteristic of the affection under consideration; viz., an inclination to the ulnar or outer side of the hand. This peculiar distortion is in some cases marked, existing equally in both hands."

In its acute form, especially when the larger joints are affected, it bears a certain resemblance to acute articular rheumatism. It differs from the latter disease in the febrile movement being less marked, in the absence of perspiration, and the greater enlargement of the joints from synovial liquids. The arthritic affection is less migratory, and is not liable to attack the heart.

The disease usually begins with pain, tenderness, and slight swelling in some joints. The constitutional disturbance is not marked. There is some acceleration of the pulse and a slight increase of temperature. The joint gradually loses its mobility, and the ends of the bones become thickened and displaced. Excrescences or nodular masses form around the articulation, the adipose tissue adjacent is absorbed, and the muscles become soft and flabby. As the disease progresses, other joints are attacked, until it may successively invade nearly every articulation in the body, causing much deformity and distortion in consequence of the enlargements and contractions produced, so that at last the patient is made a helpless cripple for the remainder of life.

Dr. Garrod describes the changes effected in the limbs as follows: "When the arms and hands are affected, the elbow is flexed perhaps at an angle of 35° from full extension; the fore-arm in a semi-pronated position; the joint is also much enlarged and misshapen, and more or less rounded from the alteration and hypertrophy of the heads of the bones as well as of the soft tissues. The wrists are rigid, almost straight, and scarcely admit of motion in any direction.

"The hands are usually thin, from the absorption of fat and from the wasting of the other soft tissues; the extremities of the phalanges are nodular, as also the heads of the metacarpal bones. The fingers are usually turned outwards, and their joints rigid, often completely fixed. As a rule the metacarpo-phalangeal articulations of the fingers are flexed, and the first phalangeal extended, causing the second phalanx to be thrown backwards; the second phalangeal joint is also flexed. One, or even every, finger on a hand may be thus altered. The phalangeal joint of the thumb is usually ex-

tended, or bent backward. Sometimes the nodose condition is well marked, but not infrequently it is but slightly developed. Complete dislocation of some joints is occasionally met with.

"The knee is generally much enlarged and rounded in the same manner and from the same causes as the elbow; it is commonly half flexed. Sometimes there is evidence of liquid effusion, but in the later stages this may be wanting.

When the hip is affected, the thigh becomes flexed, sometimes abducted with the foot everted; at other times adducted with the foot turned inward; not infrequently there is felt over the large joints a sensation as though the bones were loose.

As a rule the hands become crippled and distorted at an earlier period than the feet. Though frequently attacked, the jaw and neck seldom become fixed.

Causation.—Rheumatoid arthritis affects females more frequently than males; uterine hemorrhage and derangements being one of the predisposing causes of the disease. Tuberculosis, general debility, or any cause which lowers the vitality, are other predisposing causes. It may also follow repeated attacks of acute rheumatism.

Diagnosis.—Rheumatoid arthritis is to be discriminated from chronic rheumatism and gout. From rheumatism it may be distinguished by the absence in the latter disease of deformities, and contractions in the joints. In gout the attack is usually sudden, the pain extreme, the skin red, and inflamed, and the attack has decided intermissions, while in rheumatoid arthritis, the disease comes on gradually, and the pain, tenderness, etc., are much less pronounced.

Prognosis.—The prognosis is unfavorable for a complete cure, but in many cases it may be arrested before the mobility of the joints is entirely destroyed, and before any serious enlargement or deformity has occurred. Even when the patient has been rendered helpless, some power of movement may be regained through the formation of a kind of false joint in some of the larger articulations.

Treatment.—As rheumatoid arthritis is frequently caused by a condition of debility dependent upon uterine disorders, dyspepsia, nervous prostration, etc., remedies must first be directed to the restoration of the general health. *Arsenicum*, *Cinchona*, *Calc. carb.*, *Nux vomica*, will often prove of great service in attaining this end.

The remedies specially indicated for the joint affection are, *Calc. carb.*, *Calc. phos.*, *Phosphorus*, *Graphites*, *Thuja*.

CHAPTER VII.

RICKETS, BRONCHOCELE, SCROFULA, AND
NASAL CATARRH.

RACHITIS, OR RICKETS—DEFINITION—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. BRONCHOCELE—DESCRIPTION—CAUSATION—TREATMENT. SCROFULA—HISTORY—SYMPTOMS—CAUSATION—TREATMENT. NASAL CATARRH—DEFINITION—ACUTE NASAL CATARRH, OR CORYZA—SYMPTOMS—CAUSATION—TREATMENT. CHRONIC CATARRH—TREATMENT OF. OZÆNA—SYMPTOMS—TREATMENT.

RACHITIS.

(*Synonym*, RICKETS.)

RICKETS is a constitutional disease of infancy and childhood, characterized by irregularity in the growth of the bones, by non-solidification of their structure, and by the progressive formation of medullary cavities in the older bones, making them thin and brittle. There is also a deficiency of earthy matter, making the bones unable to support the weight of the body without yielding.

Symptoms.—The disease usually appears during infancy. It seldom declares itself prior to the fourth month of life, increases in frequency to the end of the second year, and then decreases to the sixth year, after which age it is seldom observed.

Out of three hundred and forty-six cases there were three before birth, ninety-eight during the first year, one hundred and seventy-six during the second year, thirty-five during the third year, nineteen during the fourth year, ten during the fifth year, and five during the sixth year.

The first symptoms observed are rather precursory than otherwise, and are mainly referable to the digestive organs. The appetite is feeble and capricious; the digestion is imperfect; the stools are loose, of a fetid odor, and of a dirty brown or leaden color; the abdomen is enlarged. More or less emaciation is observed.

The child becomes listless and dull, is fretful and restless at times, at others prefers to lie still and inactive. The face

is pale, the muscles are flabby. The pulse is quick and irritable. The superficial veins of the head and scalp are dilated, and stand out from the skin.

Sir W. Jenner notes, as characteristic symptoms, an excessive perspiration of the head and neck, a desire to lie naked during the night, and a general tenderness and soreness of the whole body, so that that the child cannot be moved without pain.

As the disease progresses there is superadded to the symptoms already detailed the characteristic deformities of the bones. The ends of the long bones become enlarged and knobby, so as to give the child the appearance of being double jointed. Owing to the softness of the bones they begin to yield and bend, especially those of the leg and thigh. The tibia and fibula curve outward and forward, the femur forward. The spine is curved in various directions, mainly determined by the position which the child most constantly assumes, or in which it is carried by the mother or nurse. The sternum is thrown forward, the ribs are flattened, so that the transverse diameter of the thorax is diminished, while the antero-posterior diameter is increased, giving rise to the deformity known as "pigeon breast." The clavicle and the bones of the arms are less frequently disturbed than the bones of the lower extremities. The former, however, not infrequently give way and become curved in consequence of the efforts of the child to raise and support itself by the aid of its arms, and by supporting the weight of the upper part of the body upon the palms of the hands. The deformities observed in the bones of the cranium are: prominent frontal bone, flattened vertex, open fontanelles for a longer period than usual. The occipital bone is thin and yielding, particularly at its edges.

The teeth are usually late in making their appearance; they decay early, and often become loose in their sockets. The pelvic bones become distorted in various directions, varying according to the habitual positions of the child, the forces brought to bear on them, and the age of the patient.

If the disease is not arrested, but progresses towards a fatal termination, the patient becomes more and more languid and weak, and the power of walking, or even of moving itself, is lost; the stools become more loose, white, and fetid, and contain undigested food; the abdomen becomes more enlarged; the pulse is small, quick, and weak; copious perspiration is induced at the least attempt at exertion; there is total arrest of the growth of the bones, and increase of

softening and deformity. Death may occur from increasing debility or from some intercurrent affection; as, congestion of the lungs, bronchitis, hydrothorax, hydrocephalus, convulsions, or exhausting diarrhœa.

If the progress of the disease is arrested, the bones increase in size, attain hardness and firmness; the appetite increases; digestion and assimilation improve; the stools assume a more healthy appearance; the abdomen is less tumid; the pulse is stronger and less rapid. The child becomes more disposed to muscular exertion, and loses its listless, apathetic expression.

With progressive recovery the bones acquire greater density and firmness than usual, and the deformities disappear, in a measure.

Causation.—One predisposing cause is hereditary transmission, it being observed that the children of rickety parents are liable to be born with the disease, or to contract it soon after birth. There is also a predisposition to it in children born of parents whose vitality has been impaired by chronic disease, by venereal excesses, or by age. Sir William Jenner believes that the mother's physical condition has more influence in the development of rickets than the father's. Exciting causes are: insufficient and improper food, prolonged lactation, foul air, deficient solar light, exposure to cold and dampness. This is evidenced by the prevalency of the disease in the crowded, ill-lighted, damp, and imperfectly ventilated rooms of the poor of densely populated cities, and its infrequency in the country and among the more prosperous classes of cities.

Diagnosis.—It is not always easy to detect the first manifestations of the disease, but the delay in teething, the digestive irregularities, followed by the characteristic deformities of the bones, render the diagnosis tolerably certain. In new born children it may be confounded with congenital syphilis, but the appearance of other signs of syphilitic taint serve to exclude the latter disease.

Prognosis.—The prognosis depends, in a measure, upon the age of the patient at the inception of the disease, the prognosis being more favorable in proportion to the age of the patient. The intensity of the constitutional disturbance and deformity of the bones will need to be considered in determining the probability of a favorable or unfavorable termination. Certain deformities are liable to become permanent; namely, that distortion of the sternum called chicken breast, and obliquities of the pelvis, the latter of especial importance to females in the married relation.

Pathology.—Rickets is essentially a constitutional disease, and is the expression of agencies acting within the body through the continuous exercise of its functions. Rickets has been classed among the diseases of bones, instead of being a general morbid condition, of which the changes in the bony structure is but one of the manifestations. Jenner observes: "Rickets is no more a disease of the bones than is typhoid fever a disease of the intestines. Rickets leads to disease of the bones in the same way that typhoid fever leads to disease of Peyer's patches."

Aitkin remarks: "The phenomena, therefore, which characterize the condition of rickets are of such a kind that they are the expression of the unhealthy state of the system, which pre-exists the development of the local lesion, and a cachectic state; 'a bad habit of body,' is invariably associated with the development of the disease. The change in the bones is a mere expression, and only one of many anatomical signs or characters of rickets, just as the changes in the joints or white tissues are mere expressions of rheumatism, each of which may be regarded as so many anatomical signs or lesions developed under the influence of the constitutional disease. Rickets, therefore, can no longer be regarded merely as a local disease, characterized by a mere chemical abnormality of the bones—a mere deficiency of their earthy salts."

Treatment.—Hygienic influences are leading features in the treatment of rickets. The removal of the exciting causes is a necessary preliminary to a cure or alleviation of the morbid conditions. Healthy nursing for infants, abundance of nutritious food for children, and pure, dry air, sunlight, and warm clothing must be provided. The food should be adapted to the age of the child, and the state of the digestive organs. Medicines will be of no service unless proper sanitary precautions are observed.

The medicines indicated are: *Calc. carb.*, *Calc. phos.*, *Cinchona*, *Nux vomica*, *Kali hyd.*, *Silicia*.

CALC. CARB.—This remedy has in its pathogenesis more of the symptoms characteristic of rickets than any other. Tardy ossification, delayed appearance of the teeth, open fontanelles and sutures, tumid abdomen, whitish diarrhœa, enlarged mesenteric glands, profuse perspiration from the slightest exertion, are symptoms of *Calc. carb.*, and strongly indicate its adaptability.

CALC. PHOS. may be given if no improvement results from the use of *Calc. carb.* It has nearly the same group of

provings; namely, slow dentition, tardy closing of the fontanelles, skull soft and thin, with crackling like parchment when pressed, muscular weakness, inability to hold the head erect, curvatures of the spine, swollen condyles of the long bones.

CINCHONA.—This remedy is indicated for weakness of digestion and assimilation, and particularly if there is undigested food in the stools. It may be given as an intercurrent remedy.

NUX VOMICA.—*Nux* will be occasionally indicated for the gastric derangements preceding the full development of the disease.

SILICIA.—Lilienthal recommends *Silicia* for the following symptoms: open fontanelles; head too large, with rest of body emaciated; pale face; abdomen swollen and hot; weak ankles; profuse sweat on the head, the rest of the body being dry; stools contain undigested food; offensive, painless diarrhoea, with great exhaustion.

I recommend commencing with the 3d trituration of the medicine selected, and, if no good results follow, to give the 30th or 200th potency of the same.

BRONCHOCELE.

(*Synonym*, GOITRE.)

Bronchocele is enlargement of the thyroid gland. The enlargement is generally slow and painless. The characters presented by the swelling are various. It may be soft, firm, or very hard. The whole gland may be swollen, or either the right or left lobe, or the center. The right lobe is more frequently affected than the left. The swelling varies greatly in size in different individuals. It sometimes rises to the level of the ears or descends downwards so as to lie upon the breast. Occasionally the tumor attains to an enormous size. Women are more subject to the disease than men. Usually bronchocele is simply a deformity and inconvenience, without other injurious effects. In many cases it simply appears as a soft swelling, on either side of the neck, not particularly noticeable. Sometimes, however, on account of its situation over the trachea or the vessels of the neck, goitre may cause dyspnoea from pressure upon the windpipe, or headache, vertigo, ringing in the ears, hoarseness, aphonia, in consequence of obstruction to the circulation of the blood and pressure upon the recurrent laryngeal nerve. Deglutition is some

times rendered difficult and painful from pressure on the œsophagus.

Goitre exists as an epidemic affection in some localities. From its frequency in Derbyshire, England, it derives one of its names, Derbyshire Neck. In the cantons of Switzerland it is associated with a singular affection called cretinism. It is not established that cretinism is the direct result of goitre, but when both parents in a family are goitrous for two successive generations the children of the third generation are very apt to be cretins.

Cretinism is described as follows: "The stature of the cretin is diminutive; the head is of great size, but flattened at the top, and spread out laterally, while the countenance is vacant and devoid of intelligence. The nose is flat, the lips are thick, and the tongue is large. The abdomen is sunken and pendulous; the legs are short and curved. Mentally the cretin is more or less idiotic. Some are merely stupid, others display the extreme of imbecility."

Causation.—Locality, debilitated constitutions from impure air, exclusion of light, and dampness, and certain qualities of water, used as drink, are supposed to be predisposing and exciting causes. The disease prevails most extensively in mountainous regions, and more particularly in mountainous districts whose waters are impregnated by magnesian limestone.

Prognosis.—The prognosis is favorable in simple goitres of moderate size occurring in the young, or the first periods of adult life.

Treatment.—But two remedies are indicated—*Iodine* and *Spongia*.

The first has been a favorite remedy with the Allopathic school. It is used both internally and externally—internally, in Lugol's solution, of which ten drops are given twice daily for a long time; externally it is used in ointment or liniment.

The Homeopathic school use *SPONGIA* almost exclusively. *Spongia* contains *Potentized iodine*, and probably owes its efficiency to the *Iodine* it contains. I have used *Spongia* with a very satisfactory degree of success. Its use should be continued for a long time. I have usually given the remedy in the 3d potency, three times daily.

SCROFULA.

Until within a recent period the disorder known as scrofula has been regarded as a distinct disease and widely different

in its course, duration, and effects from what has been, and is now, termed tuberculosis, of which phthisis is the most common manifestation. The name comes from the Italian word *scrofa*, meaning swine, because those animals were particularly subject to glandular diseases of the neck, and scrofula was considered to chiefly affect the same glands. But modern writers, at least some of them, regard struma or scrofula and tuberculous disease as identical, both being manifestations of the same morbid taint but differing as to locality and mode of development. Other authors divide the disease into two varieties; namely, scrofula with tubercle, and scrofula without tubercle. The former includes such diseases as phthisis or pulmonary tuberculosis, laryngeal, intestinal, mesenteric, and meningeal phthisis; the latter affects the superficial glands, the skin, eyelids, bones, etc. Gross contends that this is a distinction without any difference, and asserts that he could adduce many sound and convincing arguments in support of his opinion. Flint regards scrofula as the result of a morbid product, which, if not identical with tubercle, yet bears a close resemblance to it in its behavior and in the morbid processes which result from its development. One thing, however, is certain; namely, that children who are affected with what we call scrofula are not more liable on that account to become affected with phthisis in later years, and that patients suffering from phthisis are not liable to scrofulous inflammation and breaking down of the lymphatic glands. It may be, however, that the morbid product in each disease is only a different manifestation of the same pathological condition, and which expends its force in different ways.

Scrofula is sometimes considered a disease appertaining to the chair of surgery, because, in some forms of it, it demands surgical interference, and most works on surgery have a chapter devoted to it. But it is, without doubt, in all cases, a constitutional disease, and demands constitutional treatment even where surgical operations are necessary.

Scrofula, struma, king's evil, or tabes glandularis, for by all these names it is known, usually manifests itself externally and chiefly in glandular swellings, ulcerations, and indolent abscesses. Those predisposed to it, or already suffering from its effects, have what is called the scrofulous diathesis or dyscrasia, and this diathesis is recognized by certain well marked physical signs and peculiarities of appearance, such as enlargement of the head, protuberant abdomen, softness of the muscular structure, swelling of the upper lip and nose, milk-

white teeth decaying easily and early, long and rounded neck, paleness and coldness of the skin.

In addition to the disease mentioned above, scrofulous persons are very liable to ophthalmia of a kind exceedingly intractable to treatment. Dr. Miller in his treatise on scrofula gives the following delineation of characteristics: "The complexion is fair or frequently beautiful, as well as the features. The form, though delicate, is often graceful. The skin is, then, of fine texture; and subcutaneous blue veins are numerous, shining through the otherwise pearly white integument. The pupils are usually spacious, and the eyeballs are not only large, but prominent, the sclerotic showing a lustrous whiteness. The eyelashes are long and graceful, unless ophthalmia tarsi exists, as not infrequently is the case, then the eyelashes are wanting, and their place is occupied by the swollen, red, unseemly margin of the lid.

"In the phlegmatic form the complexion is dark, the features disagreeable, the countenance and aspect altogether forbidding, the joints large, the general form stunted in growth, or otherwise deformed from its fair proportions. The skin is thick and sallow; the eyes are dull though usually both large and prominent; the general expression is heavy and listless; yet not unfrequently the intellectual powers are remarkably acute, as well as capable of much and sustained exertion. The upper lip is usually tumid, as are the columnæ and alæ of the nose, and the general character of the face is flabby; the belly inclines to protuberance; and the extremities of the fingers are flatly clubbed, instead of presenting the ordinary tapering form."

Symptoms.—Scrofula not infrequently appears early in infantile life, but is much more frequent in childhood. It usually first attacks the skin and mucous membranes; next the lymphatic glands, usually those of the neck, and last the bones and pulmonary tissue.

The cutaneous manifestations of scrofula appear at an early age, usually upon the head and face; most commonly the eruption is eczematous: of the variety called *crusta lactea*. In other cases impetigo or lichen appear. These scrofulous eruptions differ from others in being less inflammatory and more persistent.

Scrofulous children are often affected with strumous disorders of the mucous membranes. The mucous membrane of the eyelids and the nostrils is the most frequent seat of inflammation. These affections are both troublesome and intractable.

The external meatus of the ear is often affected with the disease, causing: first, mucous, and secondly, purulent discharge, very persistent in duration. Occasionally, perforation of the tympanum takes place, with subsequent involvement of the inner ear and its appendages.

It is in the lymphatic glands that the scrofulous dyscrasia most frequently manifests itself. The glands chiefly affected are those on each side of the neck; those of the axilla, groin, and mesentery being less frequently attacked. The lymphatic glands are seldom affected during the time of infancy or after adult age, the period of greatest liability being between the ages of six and sixteen years.

Commonly, the swelling of the gland is slow and moderate; is unattended by pain or tenderness or any great degree of hardness. When several glands enlarge at once, or when suppuration is about to occur, some febrile action may be observed.

In many cases glands enlarge and remain with but little change for months or even years, and then the swelling gradually disappears by absorption.

In other cases there is a transformation of the gland, and the connective tissue around it, into a caseous matter somewhat resembling tubercle, which finally softens, becomes purulent, ulcerates its way to the surface and is discharged. The resulting ulcer heals slowly and leaves an irregular puckered cicatrix characteristic of the disease.

Peri-glandular abscesses sometimes form even when the glands themselves do not soften and suppurate. The suppurative process takes place in the connective tissue surrounding the glands.

Scrofulous affections of the bones include osteitis, periosteitis, caries, necrosis, together with gonarthrocace, or white swelling of the knee, coxarthrocace or hip disease, Pott's disease of the spine, and psoas abscess.

Of the bones, the tibia is most frequently affected, and of the joints the knee is most liable to suffer from strumous disease.

Causation.—This disease is more than any other the result of depraved and vicious habits of life. I do not mean by this that the disease is the result of sin against moral law but rather against physical laws. Insufficient food; living in confined, ill-ventilated, under-ground dark rooms; imperfect supplies of fresh air; want of cleanliness; constant exposure to wet and cold, are powerful predisposing as well

as exciting causes. The disease is hereditary, transmitted from feeble, anæmic and debilitated parents to weak, puny, and debilitated children. In the nature of things it is impossible for parents such as I have described to transmit vigorous constitutions to their offspring, and so the disease is perpetuated from one generation to another. That this is true is shown by the fact that in tenement houses in large cities, in the underground dens, where there is hunger and cold and nakedness as the rule, and plenty the exception, there scrofula mostly prevails. It is the disease of poverty and want.

Prognosis.—It is not advisable to give a positive prognosis in any case. The disease is of long duration, tedious, and difficult to manage in whichever of its many forms it may appear. In some of its forms, such as chronic suppuration of the joints, called white swelling, the prognosis is not favorable; but skillful medicinal and surgical treatment may cure, or at least preserve life.

Treatment.—The best treatment, namely hygienic, is, unfortunately, too often impossible. If all people could have abundance of food, fresh air, pure water, and well ventilated houses to sleep in, scrofula would soon be an unknown disease. We must do the best we can. We can insist on a degree of cleanliness, and we may be able to correct other conditions. It is easy to say to a poor man: this child must have a liberal diet, and warmer clothing. Possibly the poor man knows it quite as well as we do, but to get the needed things is often an impossibility.

The complaint will frequently baffle the best directed efforts for a long time. Ground will often be gained only to be again lost. It is only by patient continuance in well doing that there is hope for success.

The most essential elements to success, in addition to well considered prescriptions, are cleanliness, nutritious food, warmth, and pure air.

The treatment of the large number of skin diseases, which are supposed to be the result of the strumous diathesis, as eczema, impetigo, favus, etc., are considered separately in the chapters on those affections.

The remedies for scrofula are: for swelling and suppuration of lymphatic glands: *Calc. carb.*, *Calc. phos.*, *Conium*, *Hepar sulphur*, *Iodine*, *Silicia*, and *Sulphur*.

Scrofulous affections of mucous membranes call for: *Aurum*, *Kali. carb.*, *Natrum muriaticum*, *Graphites*, *Hepar sulphur*, *Silicia*.

Scrofulous affections of the bones and joints: *Asafetida*, *Aurum*, *Calc. phos.*, *Silicia*, and *Staphysagria*.

NASAL CATARRH.

(*Synonym*, CORYZA.)

Definition.—By the generic term catarrh is meant an acute or subacute inflammation of mucous membrane. The prefix denotes the particular tract of membrane affected by the disease, as uterine, intestinal, vaginal, bronchial, nasal, etc.

No disease is so common as acute nasal catarrh, and none so persistent, more annoying, and more frequent than chronic nasal catarrh. It has been estimated that as many as one-fourth of our adult population are more or less affected with it.

ACUTE NASAL CATARRH, OR CORYZA.

Symptoms.—The symptoms of acute catarrh are: first, swelling, dryness, and redness of the mucous membrane; next, a profuse secretion of thin, acrid, watery mucus, excoriating the skin of the nostrils and lips; lassitude, pressure in the forehead, lachrymation, sneezing, some fever, thirst, and headache. In the course of a day or two the discharge becomes thicker, and less excoriating, and finally changes to an opaque, yellowish mucus which continues for a longer or shorter course and finally ceases; with the change in the appearance of the discharge there is a subsidence of the constitutional symptoms.

Attacks of catarrh are apt to recur again and again in many susceptible subjects, and in many cases repeated attacks result in the chronic form of the complaint.

Causation.—The causes are atmospherical influences—some peculiar miasm present in the air, sudden changes in the weather, exposure to wet and cold, passing from a warm to a cold air when the body is fatigued by exercise, etc.

Treatment.—The principal remedies are *Aconite*, *Nux vom.*, *Mercurius*, *Camphor*, *Cepa*, *Arsenicum*, *Arum*, *Sambucus*, *Kali bi-chro.*

ACONITE is indicated in the first stage. Its symptoms are: fever, dryness, congestion and redness of the mucous membrane, restlessness, watery eyes. A few doses of *Aconite*, early given, may arrest the attack.

NUX VOMICA.—Alternate discharge and dryness, or discharge of thin, acrid, watery fluid by day, with frequent sneezing and dryness of the nostrils at night; feeling of fullness in the

frontal sinuses, better in the open air, worse in a warm room; chilly feeling even when in a warm room.

MERCURIUS.—Fluent coryza, with much sneezing; thin, acrid discharge from the nostrils, excoriating the lips and alæ nasi; swelling and redness of the nostrils; feeling of fullness in the forehead; pain in the limbs and back.

CAMPHOR.—Fluent coryza on sudden change of temperature from heat to cold.

ALLIUM CEPA.—Thin, watery, profuse discharge from the nostrils; sneezing; smarting of the eyes, worse on coming into a warm room; coryza, worse in the evening, with acrid discharge excoriating the upper lip; fluent coryza, attended with headache, lachrymation, cough, loss of appetite, and some fever—worse in the evening; acrid nasal discharge, with bland lachrymation. The characteristic symptoms are the frequent sneezing and excoriation of the upper lip.

ARSENICUM is more homeopathic to influenza, but is indicated in acute nasal catarrh. The symptoms calling for its administration are: discharge of burning mucus from the *right nostril*, sneezing on going into the open air, restlessness, feeling of languor and weariness, thirst, feeling of chilliness. The symptoms are worse in the evening, and until midnight.

ARUM.—Acrid discharge excoriating the inside of the nostrils, the alæ, and upper lip; dry coryza; nostrils closed, particularly on the *left side*, worse in the morning; ulceration of the nostrils; accumulation of plugs of mucus in the nostrils; swelling of posterior walls of pharynx, so that drinks pass out through the nostrils.

SAMBUCUS is especially indicated in acute catarrh of infants, commonly called "snuffles." The nose is dry, swollen, and so obstructed that the child is compelled to breathe through the mouth, making it very difficult for it to nurse.

KALI BICHO.—Fluent coryza, excoriating and causing ulcers in the nostrils; discharge at first thin and watery, but soon becoming thick, tenacious, and ropy; pressure and tightness at the root of the nose; sneezing on going into the open air.

Therapeutics of chronic nasal catarrh.—The remedies most efficient in the treatment of chronic catarrh are *Alumina*, *Aurum met.*, *Calc. carb.*, *Causticum*, *Kali carb.*, *Kreosote*, *Lycopodium*, *Nitric acid*, *Silphium*, *Sulphur*.

ALUMINA.—Sense of smell diminished; scurfy sore nostrils; discharge of thick yellow mucus; posterior nares affected with dropping of mucus therefrom into the pharynx; swelling

and soreness of the nasal septum; pain at the root of the nose; liability to take cold on the slightest exposure, with loss of hearing from partial obstruction of the Eustachian tubes; left nostril more frequently affected.

AURUM.—Syphilitic and mercurial affections of the nasal passages; ulcerated, agglutinated, painful nostrils; obstructed nostrils; crusts in the nose; excessively fetid discharge; nasal bone sensitive to touch; caries of the turbinated bones; mental depression.

CALC. CARB. is indicated for chronic catarrh occurring in persons of scrofulous diathesis. Its symptoms are dryness of nostrils at night, ulceration of the nostrils with offensive odor; special indications for *Calc.* are tendency to cold feet, to sweating of the head, and great sensitiveness to draughts of air.

GRAPHITES.—Loss of smell, with dryness of the nose; alternate dryness and discharge; dry scabs in the nose with sore and cracked nostrils; accumulation of mucus in the posterior nares and posterior wall of the pharynx, causing constant efforts to detach it by hawking; nasal sound of the voice from obstruction of posterior nares by masses of tough mucus; crackling sounds in the ears; detonations in the ears.

HYDRASTIS.—*Annoying dropping of mucus from the posterior nares; raw excoriated feeling in the nares.*

KALI CARB.—Dry coryza with loss of voice; bloody red nostrils particularly at the external opening; accumulation of *stringy mucus* in the fauces which necessitates constant hawking.

KREOSOTE.—Discharge of very offensive mucus from the nares; catarrh of old people with offensive discharge.

LYCOPodium is indicated in persistent dryness of the nose, with obstructed breathing; the patient has to breathe with the mouth open; discharge of elastic plugs of mucus from the nose.

NITRIC ACID.—Syphilitic and mercurial affection of the nose; yellow and fetid discharge from the nostrils; swelling and ulceration of the nostrils; dirty bloody mucus from posterior nares; greenish plugs of mucus from the nose in the morning.

SILPHIUM.—I have used this remedy both locally and internally for chronic catarrh with good results. The symptoms for which I have found it palliative and curative are, loss of smell, purulent offensive discharge from the nostrils, excoriation of *alæ nasi*, hawking of yellow mucus from posterior

nares. I give the first decimal dilution by insufflation, night and morning.

SULPHUR is occasionally curative in obstinate cases, which have resisted all other medication; catarrhs with the so called psoric dyscrasia. The nasal passages should be cleaned with tepid water, or a weak solution of *Carbolic acid* by means of a fountain syringe, whenever there is a profuse secretion of fetid or viscid tenacious mucus. The passages will thereby be relieved, and the comfort of the patient much enhanced.

OZÆNA.

Chronic nasal catarrh attended with a very offensive odor is called ozæna. The odor is caused either by the decomposition of the secretions of the nasal passages, by caries of the turbinated bones, or by ulcer of the septum.

Symptoms.—The symptoms are swelling of the pituitary membrane causing a feeling of obstruction and stuffiness; frontal headache; muco-purulent discharge, highly offensive; fetid breath; expulsion of crusts of hardened mucus and fibrin; and, in bad cases, general impairment of health, loss of appetite, and mental depression. The complaint most generally attacks strumous and syphilitic subjects.

The septum of the nose is frequently eaten through, and the turbinated bones suffer from caries and necrosis.

Treatment.—The nostrils should be frequently and thoroughly syringed with warm water to which a solution of *Permanganate of Potash* or *Carbolic acid* has been added (five grains *Permanganate* to a pint of water, or a five per cent solution of *Carbolic acid*). An ounce of either of these to a pint of warm water makes a wash of suitable strength.

It usually takes time and patience to thoroughly clear the nares of obstructions, but all accumulations must be removed before the fetor can be corrected.

The remedies best adapted to the treatment of ozæna are *Aurum*, *Calc. carb.*, *Nitric acid*.

CHAPTER VIII.

CHLOROSIS, LEUCOCYTHÆMIA, PYÆMIA, AND SCORBUTIS.

CHLOROSIS—DEFINITION—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT. LEUCOCYTHÆMIA—DEFINITION—SYMPTOMS—COMPLICATIONS—DIAGNOSIS—PROGNOSIS—PATHOLOGICAL CHANGES—TREATMENT. PYÆMIA—DEFINITION—PATHOLOGICAL ANATOMY—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—PATHOLOGY—TREATMENT. SCORBUTIS—SYMPTOMS—CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

CHLOROSIS.

(*Synonyms*, GREEN SICKNESS, CHLORO-ANEMIA.)

CHLOROSIS is a disease peculiar to girls at about the age of puberty, manifesting itself by changes in the circulatory, digestive, and reproductive organs, nervous system, and in the appearance of the skin.

Symptoms.—The symptoms are frequent palpitation of the heart, a murmur heard in auscultation from the base of the heart to the arteries of the neck, called the “carotid murmur,” weak and languid pulse, syncope on any unusual excitement, capricious and morbid appetite. The patient craves such indigestible articles for food as chalk, slate pencils, unctuous clay, and ashes. The breath is fetid, the tongue pale and flabby, and the bowels constipated.

Amenorrhœa generally attends chlorosis, or, rather, there is retarded menstruation. The skin is pale, with a greenish or yellowish tinge. The face is frequently puffed out under the eyes, which are surrounded with bluish or blackish circles. The patient complains of languor, debility, frequent headaches, ringing in the ears, and general depression. Generally there is irritability of temper, capriciousness, wakefulness, and neuralgic and myalgic pains. The blood exhibits a greater proportion of white corpuscles to red than normal, the disproportion being caused by a diminution in the number of red without any increase in the number of white corpuscles.

Causation.—The disease is attributed to innutrition, non-assimilation of food, disturbances of the nervous system,

lack of exercise and mental occupation, impure air, and mental emotions.

Diagnosis.—It is to be discriminated from simple anæmia. Chlorosis occurs at or about the age of puberty, is distinguished by a peculiar greenish or yellowish color of the skin, and is attended with nervous derangements, abnormalities of appetite, and visceral neuralgia. These symptoms serve to differentiate it from anæmia.

Prognosis.—The disease in itself does not tend to a fatal termination, but the impairment of the general vigor may predispose to the development of consumption. The disease may last for several months or two or three years. Favorable symptoms are restoration of the menstrual flow, improved appetite and digestion, and a natural color of the skin.

Pathology.—Those who have examined the blood of chlorotic patients agree that there is a deficiency in the number of red globules, without any marked change in the character of the fibrin; also, that there is a diminution of hæmoglobin and iron.

Treatment.—Chlorosis being a disease of debility, and of disordered functions, it is evident that hygienic measures are of the greatest importance in the treatment of the patient. Unfavorable sanitary conditions, if factors in the causation of the complaint, must be removed. Change of residence is frequently advisable, and in many cases will be followed by marked improvement. Residence in a mountainous region, or at the sea-shore, or camping out in some pleasant region, will often prove of signal service. Bathing in the sea, or in soft water, care being taken not to prolong the bath beyond a brief period, will tone up and invigorate the system. The diet should be carefully regulated. It will be perhaps impossible to entirely restrain the patient's propensity to devour the indigestible and fantastic diet the morbid appetite craves, and possibly it is not altogether desirable. Dr. Hartshorne suggests that it is not unreasonable to suppose that some indication of nature prompts to the consumption of unusual articles of diet, especially in the desire for acids on one hand, and alkaline substances on the other.

The diet should be nutritious, and largely composed of animal food. Beef, mutton, milk, chocolate, fresh fruits, and vegetables are all suitable articles of diet.

Moderate exercise should be taken regularly. Walking, rowing, horseback riding, and light gymnastics are proper modes of exercising and developing the muscles, but any

exertion should not be carried to the point of great fatigue. Whatever exercise is taken should be with the view to amuse and divert the mind as well as to strengthen the body.

The principal remedies for chlorosis are *Calc. carb.*, *Carbo. veg.*, *Cinchona*, *Ferrum*, *Graphites*, *Nux vomica*, *Pulsatilla*. Other remedies which will prove useful in some cases are *Arsenicum*, *Conium*, *Helonine*, *Ignatia*, *Sepia*, and *Sulphur*.

No disease requires a more careful study of the idiosyncrasies and the symptoms of the patient, in order to find the true simillimum. In one case the treatment must be directed to the improvement of the digestive and assimilating functions, in another to the cure of disorders of the reproductive system, in still another to select remedies appropriate to the mental condition of the patient.

LEUCOCYTHÆMIA.

This disease may be defined as a condition of the blood in which the number of the white corpuscles is enormously increased, while at the same time the number of the red is diminished. This change in the blood is generally associated with enlargement of the spleen, and lymphatic glands, and with morbid changes in the bones, liver, and alimentary canal.

Symptoms.—The symptoms in the earliest stages of the disease are abdominal enlargement, from increase in size of spleen; pallor of the skin, weakness, lassitude, loss of appetite, derangement of digestion, emaciation, dyspnœa; later on, effusions into the subcutaneous tissues and serous cavities, obstinate diarrhœa, frequent hemorrhages, and cough.

A characteristic change is noticed in the blood. If a drop is drawn from the finger it will be seen that the color is materially changed. It is paler than normal, and has a semi-opaque appearance. If a quantity of blood is drawn and allowed to stand, it forms into three layers. The red corpuscles mingled with white, sink to the bottom of the vessel, above this is a pale layer composed of white corpuscles, and at the top is a layer consisting of the liquor sanguinis from which the corpuscles have separated.

The proportion of the red to the white corpuscles in healthy blood is variously estimated. Dalton gives it as three hundred red to one white. In leucocythæmia the proportion varies from two to twenty of the red, to one of white. This change in the condition of the blood gives rise to some of the most serious

symptoms of the disease, such as dropsical effusions, hemorrhages, dyspnœa, and prostration. The pallor of the skin and paleness of the mucous membranes of the mouth and conjunctiva are due to the same cause.

Enlargement of the spleen and lymphatic glands occurs early in the disease. When the enlargement of the spleen is slight it may escape detection and give rise to no particular symptoms. When it attains considerable size it forms a tumor in the left hypochondriac region. When very large it may fill the left half of the abdomen, occasionally extending some distance beyond the median line, and descend into the iliac fossa. The tumor when not fixed by adhesions moves during the act of respiration.

The subjective symptoms from enlarged spleen are, an unpleasant feeling of distension, worse when the stomach is full, pain sometimes dull and constant, sometimes sharp and lancinating, tenderness on pressure, vomiting and indigestion from pressure upon the stomach, dyspnœa from impeded action of the diaphragm, and palpitation of the heart.

The pulse in the majority of cases is accelerated, and the temperature somewhat increased, ranging from 100° to 103° . Hemorrhages are frequent. They are supposed to proceed from a degenerated state of the blood-vessels, to local obstructions in the vessels from accumulations of white corpuscles, or to the watery state of the blood. Epistaxis and hemorrhage from the bowels are of the most frequent occurrence. Hæmatemesis, hæmoptysis, and hæmaturia are less frequent, but are occasionally present. Extravasations of blood beneath the skin and conjunctiva and into the brain are not infrequent.

Complications.—Leucocythemia may be complicated with lobar pneumonia, pleurisy with effusion, cirrhosis of the liver, Bright's disease, and jaundice. The duration of the disease is from six months to several years, the average duration being a little less than two years. Death may occur from asthenia, hemorrhage, diarrhœa, cerebral extravasation, or from the complications which may arise during the progress of the disease.

Asthenia is the most frequent cause of death. The increasing prostration of the patient from frequent losses of blood, loss of appetite, non-assimilation of food, œdema, interference of the functions of the vital organs by serous effusions, ends at last in cardiac failure.

Diagnosis.—The diagnosis of leucocythæmia is, in general, readily determined. The pallor of the skin, the en-

larged spleen, the pale color of the blood, together with the marked prostration and debility, readily enable us to distinguish the disease from any other. The disease with which it is most liable to be confounded is simple anæmia. In the former the proportion of white to the red globules is greatly in excess of the normal standard; in the latter there is diminution in number of the red and an increase of the white; the excess of the white above the usual proportion is not so marked.

Prognosis.—The prognosis is not favorable. The tendency is to a fatal termination. The more pronounced the organic lesions are, the less prospect there is for improvement. The presence of hemorrhage, œdema, and great excess of leucocytes in the blood render the prognosis of the gravest character.

The prognosis is most favorable where the excess of white corpuscles is not great, nor the number of the red seriously diminished, the splenic enlargement moderate, and disease of the bones and lymphatics absent.

Pathological anatomy.—The most constant pathological change is in the relative properties of the white and red globules. In health the ratio of white to red is 1 to 375. In leucocythæmia not only is the number of white corpuscles greatly increased, but the number of the red considerably diminished. In the disease in question the proportion reaches 1 to 3, and in some cases the number of white is even in excess of the red. The blood has a grayish red color, and is somewhat opaque. When the blood is drawn, coagulation is imperfect, forming a soft, brownish mass. The amount of fibrin and fat is increased while the quantity of iron is diminished.

The spleen is generally found to be enlarged, reaching in some cases a length of fifteen inches, and a weight of seven-teen pounds. Its consistence is sometimes normal but more often increased.

The lymphatic glands are enlarged in about one-third of the cases. The most liable to increase of size are the mesenteric, cervical, and inguinal. The increase is not great, seldom exceeding the size of a hickory nut. In a majority of cases the liver presents a morbid appearance; rarely it is decreased in volume, but generally there is enlargement of the organ; effusions into the pericardium and the thorax are not infrequent.

Pathology.—Dr. W. R. Gowers, in an able article on this disease, observes: "The pathology of leucocythæmia is a

subject which has received much attention, has occasioned much speculation, but is still obscure. On very few points is knowledge more precise, or hypothesis more definite, than when Virchow published his opinions on the nature of the affection a quarter of a century ago. This is largely due to our want of precise knowledge of the physiology of the blood, of the origin of the corpuscles and their fate, and of the function of the organ which is chiefly affected in the disease. The theories which have been and are still advanced regarding its nature are determined by the varying and different opinions held on these disputed points of physiology.

"The chief points in considering the pathology of the disease are: First, that the number of white corpuscles are largely in excess of what they are in the normal condition of the blood. Secondly, that this increased number may be due to excessive formation or undue persistence; while the decrease in the number of the red may be owing to deficient formation or premature destruction. It is believed that while many of the white corpuscles enter into the formation of new tissues, yet many of them are transformed into red corpuscles, and that this change takes place in the spleen and the medullæ of bones. The failure of the white corpuscles to undergo the change to red will account in a measure for the excess of the one and the decrease of the other.

"It is reasonable to suppose that this defective metamorphosis of white corpuscles into red is an important element in the development of the disease, and that the splenic enlargement is due to an accumulation within the organ of leucocytes which for some reason have not undergone transformation.

Treatment.—The first indications are to improve the general condition of the patient, and to remove, if possible, the causes which tend to develop the disease.

As the complaint is of more frequent occurrence in malarial districts than elsewhere, and is liable to follow repeated attacks of intermittents, sedulous care should be taken to guard against recurrence of such attacks, particularly if the spleen has already become affected. Effective prophylactic treatment for intermittent fever is a safeguard against leucocythemia, as it has long been observed that with the subsidence of ague there is a corresponding diminution in the number of cases of leucocythæmia.

The special treatment should be first to endeavor to reduce the enlarged spleen to its normal size, to improve the nutri-

tion of the blood, and to promote digestion, and assimilation of food.

The remedies best adapted to these ends are: *Cinchona*, *Nux vomica*, *Phosphorus*, *Arsenicum*.

PYÆMIA.

(*Synonym*, ICHORRHEMIA.)

By pyæmia is meant a morbid condition of blood, caused by the introduction into the circulation of the products of decomposition. It attacks for the most part those who are suffering from serious wounds, or who have undergone severe surgical operations, or suppurative inflammation of bones, or who have recently given birth to children. It may follow a boil, a carbuncle, a diffused abscess, caries and necrosis of bones, a burn, a compound fracture, a surgical operation, a dissection wound, or the act of parturition—especially if any portion of the placenta be left to undergo the act of decomposition.

Pathological anatomy.—The anatomical changes found on post-mortem examinations, consist mainly of extravasations of blood, congestions, inflammatory deposits, abscesses, and necroses. Extravasations are found under the skin, as petechiæ, vibices, and ecchymoses, or clots in the tissues of various organs, as the lungs, liver, and spleen. Inflammatory deposits occur as patches of organized fibrin in the abdominal, pleural, and pericardial cavities, and as patches of hepatization in the lungs. Abscesses are present in the majority of cases of pyæmia, and are most frequently observed in the liver, lungs, spleen, and in the connective tissue around and between the muscles. The lungs are most frequently affected secondarily in pyæmia. The viscera next in frequency to be affected are the liver, kidneys, spleen, and heart. The eye is occasionally the seat of suppurative inflammation, particularly in pyæmia following parturition.

Symptoms.—The invasion of the disease is usually sudden. It generally sets in with a severe chill, followed by great heat, profuse perspiration, and rapid pulse. The temperature often rises to 104° or 105° the first day of the attack. The heat and perspiration soon subside, to be followed at an interval of twenty-four hours or less by a recurrence of chills, to be again succeeded by perspiration and heat. The pulse, which at first may be unchanged in volume, becomes rapid, weak, and perhaps intermittent, growing

more rapid and weak as the disease increases in severity. The countenance and conjunctiva assume a yellowish tinge; the patient becomes restless, or dull and heavy. If there is a wound it loses its healthy appearance, becomes pale and glassy, looks indolent, and the discharge from it ceases. The tongue at first is clear, but now becomes furred, and at last dry, brown, and glazed; the lips also becoming parched; sordes accumulate upon the teeth; the general condition of the patient resembles that of typhoid fever; there is loss of appetite, and often nausea, vomiting, and diarrhœa; cough is a frequent symptom, and indicates hepatization of lung tissue, or bronchial irritation and inflammation. The skin before death assumes a yellow tinge.

Pain and swellings in and around the joints, or in other parts of the connective tissue, are often present, and result in the formation of abscesses.

As the disease advances, the prostration and debility of the patient increases, the pulse grows intermittent and feeble, the respiration is shallow and frequent, the face becomes shrunk and pallid; restlessness and delirium are present, sometimes ending in convulsions or coma; death ensuing from four to ten days from the invasion of the disease. Sometimes pyæmia takes a more chronic course. The symptoms are of a milder type, the fever assuming a hectic character. Abscesses form in the joints and connective tissue, and the patient after a protracted illness tardily recovers, or dies from profuse suppuration and exhaustion.

Causation.—As already stated, the cause of pyæmia is the entrance into the blood of some of the products of decomposition, as when a portion of placenta has been retained in the cavity of the uterus, or by dissection wounds. Suppuration, inflammation of the bones, suppurating surfaces of extensive wounds or burns, suppurative phlebitis are fruitful causes of pyæmia.

Diagnosis.—Except at the first invasion of the disease the diagnosis is readily determined. The characteristic symptoms are such as readily exclude all other diseases. Pyæmia has many symptoms in common with typhus and typhoid fevers, and may be confounded with these diseases. The sudden onset of pyæmia, its rapid course, the chills, high fever, and excessive perspiration, the formation of abscesses, the extreme prostration, the yellowness of the skin, and the absence of the cutaneous eruptions of fever, make the diagnosis tolerably certain.

Prognosis.—The prognosis is decidedly unfavorable, particularly in pyæmia occurring after surgical operations. A very large per cent of surgical cases prove fatal. The mortality is not so excessive when occurring after parturition, yet even then the disease excites the greatest apprehensions of the result.

Pathology.—There are various theories accounting for the morbid changes observed in pyæmia. One, and the one most generally accepted, is that of the absorption or entrance into the circulation, of pus corpuscles from some suppurating cavity or surface, and the microscope has been brought into service to establish their presence in the blood. But it is not claimed at present that pus corpuscles can be distinguished in the blood from the white corpuscles, therefore the assertion that purulent matter in the blood is the cause of all the morbid conditions which arise, rests upon an assumption not susceptible of proof.

Another hypothesis is, the contamination of the blood by some animal poison, or some putrid and decomposing matter. Sir John Brestowe, says: "We are disposed to believe that owing to some form of unhealthy process supervening in the region of primary disease, unhealthy pus, or the element of unhealthy pus (call it ichor if you will) finds its way into the circulating fluid and poisons it; that this poisoning partly shows itself in producing in the blood a tendency to coagulate in the smaller vessels, partly shows itself by inducing more subtil, but even more serious effects upon the system at large."

Virchow formulates his theory of the pathology of pyæmia as follows: "He denies that in pyæmia, pus (meaning by pus, pus corpuscles) enters the blood; he denies that pus is ever found either in the thrombus occupying the veins of the region primarily diseased, or in the small vessels leading to the patches of secondary disease; he asserts that what has been regarded as pus is merely disintegrated fibrine, and that the material choking of the small afferent vessels of a secondarily diseased tract, is simply an embolus resulting from the crumbling away of the fibrinous material occupying the veins at the seat of primary disease; he maintains that all secondary pyæmic formations and changes are thus the result of embolia, but that the differences which these formations exhibit in different cases, are due to the difference of process, which has led to the disintegration of the original thrombus." To explain, however, the general symptoms of pyæmia and

certain diffused inflammatory processes, as inflammation of joints, and of serous surfaces which do not seem to be easily explicable on the embolic theory, he assumes that in many cases of pyæmia, at least, certain ichorous juices are also absorbed into, and act upon the system." Thus, according to Virchow, it would appear that pyæmia is a complex condition; that from the veins at the seat of a primary disease, solid matters and poisonous fluids are circulated throughout the system; that the solid matters lead to the more material secondary lesions, the fluid matters to the more subtle changes, which combine to produce the disease under consideration.

Treatment.—Every precaution should be taken in the case of patients who are liable to pyæmia to guard against its occurrence. Pyæmia may be prevented by a sedulous attention to cleanliness, and by the prompt removal and disinfection of all offensive discharges. Sponges and cloths which have been used to cleanse suppurating wounds should not be employed again but be burned. An early and free discharge of pus and ichorous fluids should be maintained. *Carbolic acid*, pulverized *Charcoal*, and other antiseptic applications should be freely used. After parturition care should be used that no portion of the placenta or its membranes be retained in the uterine cavity to prove a source of infection. The patient's strength should be supported by sufficient and nutritious food, and the room occupied be well supplied with light and fresh air.

The remedies for pyæmia are *Arsenicum*, *Cinchona*, *Carbo. veg.*, *Crotalus*, *Lachesis*, *Nitric acid.*, *Rhus tox*, *Secale*, and *Sulphate of Soda*.

Prof. Polli, of Milan, after thorough investigation and experiment, came to the conclusion that the introduction into the blood of the products of decomposition produced the injurious effects, through acting on the blood as a kind of ferment, and he assumed that if a substance could be also introduced which, while innoxious to the blood and system generally, would arrest this fermentive process, its exhibition would be curative. He claimed that *Sulphurous acid* in combination with *Sodium* and *Potassium*, possessed the power to prevent all forms of fermentation, and recommends the use of these sulphates, particularly the *Sulphite of Soda*, in the treatment of pyæmia.

SCORBUTUS.

(*Synonym, Scurvy.*)

Scorbutus is a disease arising in consequence of a deficiency of, or long continued deprivation of vegetable food. It is characterized by great debility, dyspnœa on slight exertion, extravasations of blood into the various tissues of the body, causing petechiæ and ecchymoses, by a livid swollen condition of the gums, and a disposition for them to bleed on slight irritation.

The pathological appearances most usually observed are extravasations of blood in the cellular tissue, under the periosteum, and in the sheaths of the muscles. Serous effusions are sometimes found in the pleural cavities. The lungs may be pale and bloodless, or much congested, and in some cases tumors filled with liquid blood are found in their parenchyma. Effusions of serum are also occasionally found in the ventricles of the brain and the subarachnoid space. The liver and spleen not infrequently are enlarged and softened.

Symptoms.—The first symptoms observed are changes in the color of the skin which becomes pale, sallow, yellowish, or a greenish yellow. At the same time, or soon thereafter, the patient becomes listless, averse to exercise and indisposed to make any physical or mental exertion. Digestion continues good, sleep is not disturbed, and there is no fever. The bowels are usually somewhat constipated at this stage.

Next follow extravasations under the skin, small at first, and of a brownish red color. Gradually they increase in size, become irregular in outline and resemble the marks made by severe bruises. They are more numerous upon the legs and thighs than on other parts of the body. The face assumes a bloated appearance. The conjunctiva becomes red and infiltrated, so that it puffs up around the cornea, the redness and swelling being unaccompanied by pain or any discharge from the eye. The gums, at first pale, become dark red and spongy, and so enormously swollen that the teeth not infrequently disappear, covered up by their distention. They bleed easily on the slightest irritation, and sometimes very profusely. A very sickening fetid odor proceeds from the mouth which is due to the sloughing which occurs.

Mastication of solid food is impossible, and fluids are often swallowed with difficulty. Respiration is labored and diffi-

cult. There is a feeling of breathlessness, which is not accounted for by any lesion of the lungs.

In the beginning there are often rheumatic pains in the muscles and bones. In a more advanced stage the legs swell, and movement causes pain; indurations appear in the connective tissue of the thighs and legs, or under the periosteum. The joints are swollen and stiff. In unfavorable cases hemorrhages take place from the gums, mouth, nose, stomach, or intestines. The heart's action becomes feeble; the patient faints on the slightest exertion, and care is necessary to prevent fatal syncope.

Effusion of bloody serum into the cavities of the pleura or pericardium may occur, causing severe dyspnœa. Diarrhœa or dysentery frequently occurs as a complication, and tends to still further weaken the patient.

Trifling injuries to the skin take on an unhealthy action, and are liable to be converted into ulcers, whose edges are hard and shining, and the surface fungoid and bleeding.

Early in the disease as well as during its progress, impairment of vision known as hemeralopia and nyctalopia are frequently observed. These conditions are probably due to imperfect nutrition of the retina.

In extreme cases, there is a viscid expectoration from the lungs which soon becomes serous, and which may be followed by pulmonary gangrene attended by a horrible fœtor. Death usually occurs from asthenia, the patient being worn out by repeated hemorrhages or by exhausting diarrhœa.

Causation.—Scurvy is caused by abstinence from fresh vegetable food for a considerable length of time. A sufficient supply of fresh vegetables precludes the existence of the disease. Abundant statistics have been collected to prove this to be true. The disease generally occurs on ships scantily supplied with vegetable food, in armies on the march or in camp, and in besieged cities, under circumstances which prevent a sufficient supply of green food.

Diagnosis.—The diagnosis of scurvy presents no difficulties. It may be difficult in the first inception of the disease to determine its nature, but when once fully developed it is readily recognized. The bruised appearance of the flesh, the listlessness, the dyspnœa, the swollen, bleeding gums, render a mistaken diagnosis unlikely.

Prognosis.—The disease tends to a fatal termination unless the dietetic condition can be radically changed. With proper food and hygienic conditions the prognosis is favorable, unless

irreparable disorganization has occurred in organs essential to life. If the heart, lungs, and brain have escaped serious lesions, recovery may be expected.

Treatment.—The treatment of scurvy mainly consists in feeding the patient those aliments, the want of which has induced the disease. Prominent among these are the juice of limes, lemons, and oranges, and raw potatoes reduced to a pulp. Other foods most conducive to a cure are sauerkraut, salads, onions, greens, sorrel, pickles, carrots, radishes, etc. The efficacy of the juice of limes and lemons not only in curing the disease, but also in preventing its ravages, has been thoroughly established.

The patient should, also, be well nourished with milk, eggs, soups of meats and vegetables. Under a diet of this kind the unfavorable symptoms quickly subside. The swollen and spongy gums are speedily reduced to a normal state; the petechial spots disappear. As the swelling of the gums subsides, the patient may be fed more solid food.

The remedies in addition to a proper dietary are: *Cinchona*, *Carbo. veg.*, *Hamamelis*, *Rhus*, *Nitric acid*, *Mercurius sol.*, *Phosphoric acid*.

CINCHONA.—Debility, listlessness, diarrhœa, the stools containing undigested food; tendency to syncope; great emaciation; also useful during convalescence, if there is lenteria with great debility.

CARBO VEG. is indicated if there is a tendency to gangrene of the lungs, and sloughing of the gums and mucous membrane of the mouth; feeble irregular pulse; skin cold and clammy; excessive prostration.

HAMAMELIS is indicated for hemorrhages from the outlets of the body.

RHUS TOX.—Petechiæ and ecchymoses; rheumatic pains in the muscles and joints; indurations under the muscles, and swelling of the joints.

NITRIC ACID.—Swelling and sponginess of the gums; ptyalism; easily bleeding gums; great fetor of the breath; teeth loose in their sockets.

MERCURIUS SOL. is especially indicated for dysenteric stools; foul ulcers on the legs; flow of fetid saliva.

PHOSPHORIC ACID.—Hemorrhage from the bowels; thin painless diarrhœa.

SECTION SEVENTH

DISEASES OF THE SKIN.

CHAPTER I.

SKIN DISEASES—CLASSIFICATION OF.

EXANTHEMATA—VARIETIES OF. ERYTHEMA—TREATMENT. ROSEOLA —
CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT. URTICARIA—EX-
CITING CAUSES—DIAGNOSIS—PROGNOSIS—TREATMENT.

FROM the time of Dr. Willan, at the beginning of this century to the present, many classifications of cutaneous diseases have been proposed, but the one adopted by Willan has, with some modifications, maintained its ground.

Diseases of the skin are classed in several groups, as follows:

1. Exanthemata, embracing erythema, roseola, and urticaria.
2. Vesiculæ, embracing sudamina, eczema, and herpes.
3. Pustulæ, embracing ecthyma, and impetigo.
4. Papulæ, embracing strophulus, lichen, and prurigo.
5. Bullæ, embracing pemphigus and rupia.
6. Squamæ, embracing psoriasis, pityriasis, and ichthyosis.
7. Maculæ, embracing nævus, lentigo, ephelis, and vitiligo.
8. Tuberculæ, embracing acne, lupus, molluscum, keloid.
9. Parasitici, animal and vegetable, embracing scabies, phthiriasis, tinea favosa, tinea tonsurans, tinea decalvans, sycosis, and chloasma.

It must not be supposed that each of these varieties exists in a simple form. On the contrary, we often see two or three in combination; as, lichen and eczema, or lichen and urticaria, etc.

So, too, different cutaneous affections may arise from the

same source of irritation. Gastric irritation may induce urticaria in one individual, and erythema or herpes in another.

Cutaneous affections are materially modified by the constitutional dyscrasias of the patient, as well as by the age, sex, mode of life, etc. They are also nearly all simulated by the various affections of the skin engendered in the course of constitutional syphilis, insomuch that many writers on cutaneous diseases treat of a special class under the head of syphilides.

In the homeopathic materia medica, we have in the provings of medicines, symptoms analogous to the several classes of cutaneous affections.

For instance, the exanthemata have their analogies in the pathogeneses of *Belladonna*, *Ammonium mur.*, *Apis*, and *Urtica urens*.

The squamous eruptions in *Arsenicum*, *Sepia*, and *Sulphur*.

The vesicular in *Cantharis*, *Rhus tox*, *Clematis*, and *Graphites*.

The pustular in *Croton*, *Tig.*, *Tartar emetic*, *Merc. sol.*, and *Viola tricolor*.

The papular in *Causticum*, *Antimonium crudum*, *Carbo animalis*, and *Ledum*.

The tubercular in *Thuja* and *Staphsagria*.

CLASS FIRST—EXANTHEMATA.

The divisions of this class are: *Erythema*, *Roseola*, and *Urticaria*.

Erythema.—Erythema is characterized by superficial red patches, which are irregularly circumscribed, of variable form and extent, and subsiding on pressure. These patches of redness are the seat of tingling, pricking, and smarting sensations. The eruption is sometimes preceded by slight fever.

This affection is usually considered under several designations; namely, *erythema simplex*, usually transient in its nature, and caused by local irritation such as is produced by the application of mustard or plasters, by the friction of the clothing, or by catarrhal discharges.

Treatment.—The treatment is very simple, consisting chiefly in the removal of the source of irritation, and the application of emollient soothing preparations.

Erythema intertrigo is caused by the friction of two opposing surfaces of skin, especially when there is not proper

attention paid to cleanliness and to removing promptly the discharges from the body. It chiefly affects infants of scrofulous temperament, and adults of great obesity. It affects most commonly the folds of the groins and thighs, the armpits, and the surfaces under the breast.

The treatment of intertrigo consists in thorough cleanliness, frequent washing of the affected parts, careful drying, and dusting them with *Lycopodium* powder. Washing with a weak solution of the *Subacetate of Lead* is also beneficial. I have also derived much benefit from a weak solution of *Calendula*, tincture. A teaspoonful of *Calendula* to a pint of water is sufficient.

Erythema pernio or chilblain.—Chilblains appear as shining, red, swollen patches, which are the seat of severe itching and burning. The usual situation is on the heel, toes, and backs of the fingers. They are caused by getting the hands and feet wet and cold, during a thaw, and warming them while wet. Some persons appear to have a predisposition to the affection, suffering regularly from it every winter. If the complaint lasts for any length of time, the red and swollen patches are succeeded by a bluish tint, and are covered with watery blebs, which change to foul looking sores which are frequently very slow to heal.

Treatment.—The treatment of chilblains consists in general attention to the health, to keeping the limbs warm and dry, and in frictions of the skin. For local treatment I have succeeded best with *Pulsatilla* and *Agaricus muscarius*. If the chilblain is unbroken, I apply *Pulsatilla* of the first decimal dilution night and morning, but if blebs or ulcers have formed I prefer an ointment made of 20 parts of *Cosmoline* to one of *Agaricus*.

Erythema nodosum.—This variety of erythema almost invariably appears upon the anterior part of the legs. It chiefly attacks young girls, and is frequently associated with malnutrition and its concomitants, anæmia and chlorosis.

It is characterized by the appearance of one or more oval patches of redness from an inch to three inches in diameter, running parallel with the tibia. The patches are swollen, but the margin is not well defined. At first they are hard, and tender to the touch, but in a few days soften and gradually fade and disappear. Fresh patches successively appear for a period of fourteen or twenty days.

Erythema leve, erythema circinatum, and erythema papulatum are other varieties of the disease rarely seen, and demanding no special description or treatment.

As the cause lies in the general impairment of the uterine and digestive functions, the treatment should be directed to relieve the functional derangements.

Erythema fugax.—This is a variety of rash caused by errors of diet, or in consequence of some idiosyncrasy of the patient in regard to some articles of food. It is characterized by the sudden appearance on some part of the body of large red patches, attended with burning and itching. After remaining a short time they disappear as suddenly as they came. The treatment consists in avoidance of the exciting cause, and the improvement of the digestive powers.

ROSEOLA.

(*Synonym*, ROSE RASH, FALSE MEASLES.)

Roseola is a non-contagious, diffused, and inflammatory mottling of the skin. The mottling is produced by small, rose-colored patches running into each other, and which are interspersed with portions of unaffected skin.

The disease occurs oftener in summer than in winter, and is often styled a summer rash. It also affects infants and children much more frequently than adults.

The eruption is often preceded by slight fever, which subsides as the rash appears. It generally commences on the chest and arms, and may be confined to those portions of the body or spread thence over the whole surface. The rash remains three or four days and then subsides, in some cases being followed by slight desquamation of the cuticle.

Several varieties of the affection have been described, under the names of *roseola æstiva*, or summer rash; *roseola vaccinea*, which forms around the vaccine vesicles and spreads from the vaccine areola over a considerable extent of the adjacent skin; *roseola variola*, which precedes the proper eruption of small-pox when the latter is delayed.

Causation.—Roseola may be classed as a summer rash, and its most frequent causes are long continued heat, and derangement of the stomach and bowels. It is much more common in infancy than in childhood or adult life, and seems to be induced by the irritation of dentition, conjoined with disorders of the alimentary canal.

In adults it is sometimes induced by drinking cold water after violent exercise, or sudden suppression of perspiration. It also is occasioned by vaccination, the rash extending from the point of inoculation, and sometimes occurs during the beginning of small-pox, and other eruptive fevers.

Diagnosis.—The diagnosis of roseola is important, because it is frequently mistaken for other diseases more serious in their nature. It is mistaken for measles so frequently that it has been called false measles. The rash of roseola is of a lighter color, commences first on the trunk, and is evenly disseminated over the skin. There is less fever in roseola, and the eruption is not preceded by coryza. The rash of measles is dark red, appears in crescentic patches, is preceded by considerable constitutional disturbance, and is attended by coryza manifested by watery eyes, discharge from the nares, and by cough. Measles is also contagious, whereas roseola is not.

Prognosis.—Roseola is a slight disorder lasting but a few days, and causing no great amount of discomfort.

Treatment.—In general no medication is required. Attention to diet, clothing, etc., is all that is necessary.

If there is considerable fever a few doses of *Aconite* may be administered. If the complaint is brought on by errors in diet, *Pulsatilla* is the indicated remedy. *Belladonna* is indicated if the complaint arises in consequence of the irritation of dentition.

URTICARIA.

(*Synonym*, NETTLE RASH.)

Urticaria is characterized by the formation of wheals (technically called pomphi,) that is of elevated efflorescences, which are either red or white, regular or irregular shape, and of various sizes, from a three cent piece to a silver dollar or even larger. The wheals are generally light in the center, red on the circumference, are slightly elevated above the surface of the skin, are attended with some œdematous swelling, frequently extend over the whole body, and are attended with burning and tingling sensations and an intense itching.

There are two varieties of urticaria. The disease is acute in the first variety, and is usually of short duration. It commences with febrile symptoms and some gastric derangement which are relieved by the appearance of the eruption. The eruption appears suddenly, and as suddenly disappears. Sometimes it breaks out on one portion of the body, then disappears only to reappear in another place. The second variety is chronic, and is very annoying and persistent.

Different forms of urticaria have received various designation, as:

First. Urticaria hemorrhagica in which the wheals appear,

gradually acquire a dark red, and subsequently a purple color due to subcutaneous extravasation, and then gradually disappear. It is also called by Willan, *purpura urticata*.

Second. Urticaria bullosa in which the wheals go on to the formation of blebs whose contents dry to crusts.

Third. Lichen urticatus in which the eruption appears on the back of the hands and feet, and on the face, in the form of pale red papules, from the size of a pin's head to that of a pea.

Neumann says that urticaria is produced by an exudation in the superficial layers of the corium, such as may be artificially produced by injecting water horizontally under the skin, by a hypodermic syringe whereby the blood is crowded from the superficial capillaries. He examined with the microscope fresh wheals which had been excited on rabbits by striking them with nettles, and the condition found was œdematous swelling of the tissue of the cutis, with diminution of blood.

Exciting causes.—Urticaria results from indulgence in certain articles of food in regard to which many individuals have idiosyncrasies, such as shell-fish, mushrooms, fish, pickles, etc.; from gastric derangements, ovarian diseases, heat, irritants such as the bite of bed-bugs, contact of nettles; also from intestinal worms, jaundice, over exercise, strong mental excitement, dentition, etc. Predisposing causes are special predisposition, infancy and childhood, a delicate susceptible skin and a gouty diathesis.

Diagnosis.—The diagnosis is generally easy. The prominent hard wheals, the peculiar tingling, burning itching accompanying them, and their transient character, make the disease easily recognizable.

Prognosis.—The disease is frequently obstinate and protracted, but seldom dangerous. Urticaria arising from gastric derangements is the most severe in its character but seldom exhibits any alarming symptoms. Persons with special predispositions or idiosyncrasies who are liable to be attacked at any time, and especially in the summer season need to exercise caution in regard to their habits and to indulgence in certain kinds of food.

Treatment.—If the disease is induced by eating certain kinds of food, it is necessary to abstain from those articles. Willan suggests that one article of food after another which the patient has been accustomed to eat, should be omitted from his diet until the offending article has been detected.

Should indigestion be the cause, appropriate remedies should be given, and careful attention given to the regulation

of the diet. Careful attention should in all cases, be given to the removal of the exciting cause if it can be ascertained.

The remedies recommended for the treatment of urticaria are, *Aconite*, *Antimonium crudum*, *Chloral*, *Ledum*, *Mezereum*, *Nux vomica*, *Pulsatilla*, *Rhus tox*, *Urtica urens*.

ACONITE is indicated if there is fever and heat of the skin, or if the attack is brought on by exposure to heat, causing capillary congestion.

ANTIMONIUM CRUDUM.—When the disease is caused by gastric derangements. The eruption consists of small wheals, with violent burning, and fine stinging pains. The gastric symptoms are white furred tongue, nausea, feeling of oppression at the stomach, and indisposition for exertion.

CHLORAL HYDRATE.—Chloral in large doses produces an eruption similar to nettle rash, and, therefore, Lilienthal mentions it as deserving a trial in the treatment of this annoying affection.

LEDUM is indicated when nettle rash has been induced by the bites of fleas, mosquitoes, or bed-bugs. The external application of a weak solution of *Ledum* is of great benefit. *Stinging pain* when touched, and *tearing pains*, are characteristic indications for the remedy.

MEZEREUM.—Red spots like flea bites on the chest attended by almost unbearable burning and itching. Aggravation in the evening, at night and by scratching.

NUX VOMICA is chiefly useful in correcting the gastric derangements which are so fruitful a source of urticaria. It is more particularly indicated in the treatment of the chronic form of the disease.

PULSATILLA is indicated when urticaria is caused by eating rich food, fat meat, as pork, or by menstrual derangements.

RHUS TOX. is indicated when induced by exposure to cold and damp, also if the eruption assumes a vesicular character. The skin is red and swollen, with dry heat of the surface.

URTICA URENS is indicated when the wheals are large, extend over a considerable surface, and are attended with roughness of the skin, and violent itching and burning as if the skin was scorched. I prescribe the thirtieth dilution.

CHAPTER II.

VESICULÆ.

SUDAMINA—TREATMENT. ECZEMA—VARIETIES OF — CAUSATION—DIAGNOSIS—PROGNOSIS—TREATMENT.

THERE are three affections included in this class; namely, Sudamina or Miliaria, Eczema, and Herpes.

A vesicle is a slight elevation of the epidermis containing a fluid generally clear, but occasionally opaque. The fluid is either absorbed leaving thin flakes of epidermis which dry, and scale off, or is poured out upon the surface, and forms incrustations. The vesicles are generally of a globular form, and vary in size from a pin head to a split pea.

SUDAMINA.

(*Synonym, MILIARIA.*)

By sudamina or miliaria we understand minute vesicles looking like seed pearls filled with limpid serum, and scattered irregularly over the skin, and which dry up in pale yellow scale-like crusts. Some authors make a distinction between sudamina and miliaria, but if there is any difference it is but slight.

Neumann gives three varieties as follows:

First. Miliaria rubra, consisting of papules or vesicles of the size of the head of a pin, which contain only serum at their apex, and are reddened at their base.

Second. Miliaria alba, in which the epidermis is macerated, whereby the vesicles show a milky opaque fluid.

Third. Miliaria crystallina, in which the contents of the vesicles are almost transparent like tears.

Hebra says the first two are to be considered sudamina, while the third is true miliaria, and appears in connection with febrile diseases, as typhoid and typhus fevers, rheumatism, and also in marasmus. The first two varieties are caused by a profuse secretion of sweat induced by high temperature, thus producing distention of the sweat tubes. Sudamina ap-

pears most frequently in corpulent persons who sweat excessively, and in persons who have a thin, delicate skin. Turkish baths and hot fomentations of children not unfrequently develop the vesicles so numerously that patches of skin seem to be raised into one continuous blister.

The cause of the formation of vesicles is alleged by Haight and Neumann to be a collection of perspiration between the lamellæ of the epidermis. Others attribute them to an accumulation of sweat in the distended ducts.

Treatment.—Sudamina and miliaria can hardly be regarded as cutaneous diseases but rather as symptoms of some special disease. When occurring during the course of febrile disorder, no special treatment is demanded. When they occur in consequence of exposure to great heat, in the class of subjects already mentioned, some local and general treatment is required. The patients should avoid exposure to heat or hot baths, wear light clothing, and cover themselves lightly at night. Sponging the body with tepid water and soda is an excellent application.

Aconite and *Rhus* are the indicated remedies.

ECZEMA.

(*Synonyms*, CRUSTA LACTEA, HUMID TETTER, SCABIES HUMIDA.)

Eczema is a common non-contagious disease, consisting of an eruption of small vesicles crowded closely together, often running into each other, which on being ruptured form moist reddened excoriations, exuding a clear plastic serum which hardens in straw colored crusts. The falling off of these crusts is attended with a scaly desquamation of the epidermis.

The varieties of eczema are named according to the different forms of the eruption; as *eczema simplex*; *eczema rubrum*; *eczema pustulosum*; *eczema squamosum*; *eczema impetiginosum*; also according to its locality, as *eczema manuum* (on the hands); *eczema capitis* (on the head); *eczema faciei*, *crusta lactea*, *porrigo larvalis* (on the face), *eczema barbæ* (on the hairy part of the face); *eczema preputialis* and *labialis* (on the genital organs); etc.

Eczema may be acute or chronic, the latter being by far the most common.

Acute eczema occurs most frequently on the face, hands, feet, and genital organs; in rare cases it attacks the whole surface.

Eczema simplex which is eczema in its mildest form, occurs without any marked constitutional symptoms. It begins with the appearance of slightly reddened patches, on which are speedily developed numerous small clear vesicles filled with serum. The eruption is attended with some itching and burning. In a few days the vesicles either disappear by absorption, or are ruptured and form thin crusts which dry and scale off leaving the skin perfectly sound. The whole course of eruption and desquamation occupies from seven to ten days.

Eczema rubra is a severer form of the disease. The eruption is attended with considerable constitutional disturbance. The inflamed patches are bright red, swollen, and hot to the touch. The skin is thickly sprinkled with minute vesicles, which subsequently burst and pour out a viscid, adhesive fluid, which finally dries to crusts, which being removed reveals the skin underneath moist, red, and excoriated. After a time it becomes dry and red, with white scales. At the expiration of two or three weeks the skin resumes its normal appearance. During the height of the eruption the burning and itching are frequently intolerable.

Chronic eczema consists either in repeated attacks of sub-acute eczema, or a permanently diseased condition of the skin. It affects nearly every portion of the body, and is known under a great variety of names principally derived from the locality of the disease. Like the acute variety it may begin with papules, though more frequently with vesicles. The papules dry into scales or develop into vesicles. The vesicles in some cases rupture and pour out an abundant discharge of a clear thin serum, the affected skin looking red, inflamed and excoriated. In other cases the vesicles rupture, and exude a tenacious gummy fluid which dries into crusts, beneath which the skin is red, moist, and swollen. If the crusts become detached they are speedily renewed. Later on the skin becomes dry and covered with scales. In still other cases there is but little tendency to fluid secretion. The reddened skin is covered with yellowish translucent flakes, adherent in the center but detached at the margins.

Another variety exhibits a thin, smooth, and shining appearance of the skin, covered with very thin transparent flakes. When eczema appears on parts of the body where the skin is frequently stretched and relaxed, as the palm of the hand, or the bend of the fingers, red fissures appear, extending deeply into the cuticle, and when near any of the openings of the

body, the disease may extend from the external skin to the internal mucous membrane, and conversely from the internal membrane to the external integument.

Eczema capitis, or tinea capitis.—This variety of eczema attacks the hairy scalp, and appears in the form of eczema rubrum or impetiginosum. Sometimes it extends to the adjacent parts, as upon the forehead and ears, and more rarely to the internal ear and neck. It begins with redness of the skin, followed by an eruption of minute vesicles. These rupture and exude a viscid fluid which mingled with the secretion of the numerous sebaceous follicles of the scalp forms a yellowish fluid like honey in color and consistency. The exudation dries somewhat, entangles the hair in its substance and forms large soft yellowish or yellow brown crusts. If these are allowed to remain, and with many persons it is deemed inexpedient to disturb them, they collect dust, germs of vegetable organisms, and eggs of parasites. Lice sometimes appear in great numbers on the scalp in consequence of neglect. If the crusts are removed the skin appears red, raw, and moist. In recovery the exudation diminishes and finally ceases, dry crusts form, exfoliate and leave the skin underneath in a healthy condition. Eczema capitis is almost entirely confined to the period of childhood.

Eczema of the face—also designated *crusta lactea*, or *porrigo larvalis*. This variety appears usually on one or other of the cheeks, though it may attack the eye-lids, the nose, the lips and also extend to the mucous membrane adjacent. The symptoms, course, and termination are much the same as in the other forms of eczema. It is frequently a very obstinate and persistent affection. When it involves the nares, it gives rise to crusts which annoy the patient for years.

Eczema of the hairy parts of the face, *eczema barbæ*, is an annoying and intractable disease. It resembles sycosis very closely, and is only distinguished from it by the fact that eczema extends to the hairless parts of the face, which is not the case with sycosis. In this variety of eczema, in addition to usual symptoms, there appear at the points of exit of the hairs small flat pustules. The roots of the hair are *swollen, loose, and covered with pus*.

Eczema of the genitals and anus.—Eczema of the penis causes swelling of the organ, and not infrequently induces phimosis and paraphimosis. If on the scrotum, the integument swells and becomes moist over its surface, and if the disease is protracted, thickening of the skin takes place, and

may ultimately end in elephantiasis scroti. Eczema labialis, commences on the labia majora, and spreads from thence to the perineum, anus, thighs and mucous membrane of the vagina.

Eczema of the anus and perineum, occurs from want of cleanliness, combined with friction of the opposing surfaces of the nates. It is generally an obstinate and intractable affection, and the cause of much annoyance to the patient.

Eczema of the genital organs and of the anus is attended with most intense itching.

There are several other forms of *eczema* named from the localities affected, but as they all have the same general characteristics no special description will be necessary.

Causation.—Eczema is common to all ages, but affects the young much more frequently than the old. Infants and young children are especially liable to it. In many persons there is a predisposition to the disease. The exciting causes are: the irritation of dentition; wearing of too warm clothing during hot weather; pressure of clothing, belts, trusses, shoes, etc.; eating shell-fish, or rich food; irritation of plasters, secretions of the body, and of *acarus scabiei*. In some cases eczema seems to depend upon some other affection, as dyspepsia, uterine disorders, and chlorosis, and only disappears when the primary maladies are cured.

Diagnosis.—Eczema is often coincident with other cutaneous affections, and this fact must be considered in establishing the diagnosis. The affections with which it is most apt to be confounded are herpes, lichen, and scabies.

Herpes may be distinguished by the larger size of the vesicles, their occurrence in groups of comparatively small number clustered on circumscribed, inflamed areolæ, and the formation of dry and adherent instead of loose moist crusts. In lichen the secretion is very scanty, and the crusts formed are minute and dry.

Eczema of the scalp in some cases strongly resemble pityriasis, but the scales in the latter disease are dryer and thinner than in eczema.

Prognosis.—The prognosis of acute eczema is favorable, the disease seldom lasting more than two weeks. Chronic eczema is a persistent and obstinate affection in many cases, and is very liable to relapse. In certain localities as the scalp, hairy parts of the face, and on the hands, the disease is less amenable to treatment than on other parts of the body. It is more intractable in middle age than in infancy and child-

hood. The disease never tends to a fatal termination, and the prognosis regards duration and not danger to life.

Treatment.—If the disease is dependent upon some other affection, as chlorosis, dyspepsia, scrofula, or uterine derangements, treatment should be directed to the cure of these diseases. Attention should also be paid to diet, exercise, ventilation, and other measures to improve the general health of the patient. Local treatment embraces the use of water by baths, and enveloping in wet sheets, but this is only adapted to the treatment of acute eczemas. The water used should be soft; hard water proves irritating to the inflamed skin. Oleaginous substances are useful in softening and removing the crusts and in preventing the contact of air. *Olive oil, Vaseline, Spermaceti ointment, Cold cream, etc.*, are suitable applications. *Vaseline* is preferred by some on account of its freedom from rancidity. The use of oily substances tends to relieve the intolerable itching which is so disagreeable a feature of eczema.

I have never found it necessary to use astringent ointments or lotions. When eczema affects parts where opposing surfaces rub together, *Powder of Starch, Lycopodium, or Amylum purum* may be used.

In eczema of the extremities, with subcutaneous infiltration, pressure by means of bandages or adhesive strips is an important means of cure. Neumann also advocates the use of rubber bandages, for the reason that a more uniform pressure can be maintained with them.

The remedies principally indicated in eczema are: *Arsenicum, Calc. carb., Clematis, Dulcamara, Hepar sulphur, Graphites, Lycopodium, Merc. sol., Rhus tox., Sepia, Staphsagria, Sulphur, and Viola tricolor.*

ARSENICUM is indicated in eczema with scanty secretion, and with the formation of thin crusts which quickly become dry. The medicine is more especially adapted to the treatment of squamous eruptions. As already mentioned one form of eczema has but little secretion, but presents a smooth reddened skin covered with thin semi-transparent flakes. In this variety *Arsenicum* is indicated. Other symptoms are intense burning, worse at night with but little itching; corrosive discharge. *Arsenicum* is more especially indicated in eczema of the face and extremities.

CALC. CARB. is indicated rather by constitutional peculiarities than by the character of the eruption. Children of scrofulous or rachitic diathesis; women of leuco-phlegmatic temperament,

in whom menstruation is too frequent and profuse, are suitable subjects for this remedy. It is adapted to moist eczema; eczema of the scalp with the formation of thick crusts; moist eczema behind the ears; vesicles changing to pustules with constant oozing and drying up to form thick crusts.

CLEMATIS is indicated in moist eczema of the scalp (*tinea capitis*). The eruption is more on the *posterior portion* of the head extending down the neck; moist eruption with the formation of *soft crusts*; matting of the hair, intense itching, worse at night, and from the warmth of the bed.

DULCAMARA.—Eczema with *profuse secretion* of *serous fluid*. The skin is red, angry, and bleeds easily on being scratched; eczemas of *face, forehead* and *chin*; eczema of the labia.

HEPAR SULPHUR is indicated in moist eczema of the prepuce, scrotum, and the folds between the scrotum and thigh. The eruptions are very sensitive, and sore to the touch; spreading eczema, new vesicles appearing beyond the old ones; sore moist eczema of the scalp, of fetid odor, which itches violently when exposed to the open air; burning on being scratched; falling off of the hair.

GRAPHITES is indicated in moist chronic eczemas with profuse serous exudations, with violent itching and burning; *raw moist eczema between the fingers*. Eczema impetiginodes beginning behind the ears, spreading over the neck and face. Crusts form and are pushed off by a glutinous secretion and again form. The eruption slowly spreads beyond the crusts. Eczema of the eyelids with inflamed scurfy margins.

LYCOPODIUM.—Eczema of the scalp extending to the face; eruption more pustular than vesicular with an inflamed base, and with an offensive odor; glandular swellings in the neck. Eczema of the occiput; thick crusts, easily bleeding, exuding a fetid serum, worse from scratching and warmth. High potencies of *Lycopodium* are more efficient than the lower in the treatment of eczema.

PETROLEUM.—Eczema of the anus and scrotum; moist eruption between the scrotum and the thighs; burning itching aggravated at night, and by the warmth of the bed.

RHUS TOX.—In several cases of my own in which a lotion of *Rhus tox.* has been used, a persistent eczema has been developed, accompanied by terrible itching. In one instance the lotion was used for a sprained knee. The eruption began on the knee, spread from thence to the foot, and subsequently appeared on the hands.

In my practice *Rhus tox.* has been the principal remedy in the treatment of acute eczema of the extremities. I give the third decimal. The itching is relieved by scratching.

STAPHYSAGRIA.—Eczema of the nostrils with formation of crusts high up in the nares.

SULPHUR.—Moist eczema of the scalp with *purulent* secretion forming yellow crusts, burning and itching; also scaly, dry eczema on the back of the head, attended with voluptuous itching; fissures and rhagades easily bleeding, burning, and painful.

VIOLA TRICOLOR.—Teste declares this remedy to be curative in eczema of the head of infants and young children. For eczema of the scalp, the eruption extending over nearly the whole of the head, forming a yellowish gray crust, I have given the remedy with excellent results.

HERPES.

(*Synonym, TETTER.*)

Herpes is an acute non-contagious vesicular disease, in which vesicles or blebs appear upon a reddened and inflamed skin. The vesicles appear in circumscribed clusters on patches of erythematous skin, each cluster being separated from its neighbor by intervals of healthy integument. Herpes differs from eczema in several particulars. The vesicles of herpes are larger, and do not run into each other, each vesicle being distinct of itself. In eczema there is an exudation of glutinous matter which forms soft crusts, which is not the case in herpes.

The varieties of herpes designated on account of locality, and form are: *herpes zoster*; *herpes labialis*; *herpes præputialis*; *herpes iris*; and *herpes circinatus*.

HERPES ZOSTER.

(*Synonym, ZONA, POPULARLY KNOWN AS SHINGLES.*)

Herpes zoster is an eruption of vesicles appearing in irregular clusters on the body, and usually on but one side. A group of vesicles on an inflamed patch of skin will appear at variable intervals on the trunk, beginning at the spine, and extending in a wavy or oblique band half way round the body to the middle line in front.

The vesicles vary in size from a millet seed to a pea, are transparent at first, but soon assume a pearly appearance. In a few days the contents of the vesicles become turbid and

opaque, the vesicles shrivel and dry up into small brown crusts, which fall off leaving red stains, which gradually fade away.

The eruption is usually preceded by some fever, languor, pain in the loins, loss of appetite, and a feeling of prickling, burning, and stinging, which becomes more severe with the appearance of the eruption. There is also during the eruption considerable tenderness of the inflamed skin, so that as a patient expressed it, he tried to shrink away from that portion of his body.

The number of groups of vesicles may vary considerably. The half zone may consist of many groups, or only two or three. The number of vesicles in each group varies from two or three to several dozen. Neumann mentions one variety, in which only a single vesicle appears here and there on the zone. The duration of the disease is from seven to twelve days.

The process of dessication and exfoliation takes place in the order of the appearance of the eruption. Sometimes, however, in cases of aged persons, or when there has been irritation of the parts, profuse secretion of pus with subsequent formation of thick confluent crusts takes place, which when detached leave superficial ulcers which heal slowly. Not infrequently there remains after the eruption has disappeared, more or less severe neuralgic pains along the track of the disease.

Causation.—Herpes zoster belongs to the class of neuroses. The eruption appears along the course of the cutaneous nerves, and, according to Thomas, the cause may lie in a partial irritation of the spinal ganglia. Mechanical injury, exposure to cold, and violent fits of passion are probably exciting causes.

Treatment.—*Arsenicum* and *Rhus* are the remedies chiefly indicated.

In a large majority of cases *Rhus* is indicated.

ARSENICUM may be given if the burning, stinging pain is very severe, with considerable constitutional disturbance, prostration, and great restlessness. Also if the erythematous patches are of a dark red color, and the vesicles dry up into blackish looking crusts.

MEZEREUM is indicated if neuralgic pains remain after the disappearance of the eruption. Other remedies which may be consulted are *Cantharis*, *Euphorbium*, *Iris*, *Pulsatilla*.

When the disease occurs in aged and debilitated individuals, the general health should be attended to by means of

appropriate medication, the moderate use of stimulants and nutritious food.

Care should be taken to prevent the rupture of the vesicles. To this end an oiled bandage should be worn, in order to prevent contact and friction of the clothing. If the vesicles become ruptured the part may be dusted with *Starch* or *Lycopodium* powder.

HERPES LABIALIS.

This variety of herpes occurs in connection with febrile diseases. The eruption appears on the vermilion border of the lips or on the skin, and consists of a cluster of vesicles of various sizes grouped closely together. Its most common seat is at the angles of the mouth, though it may appear on any part of the lips, and sometimes forms a complete circle around the mouth. The eruption is preceded by a sensation of burning and smarting. Independent of febrile conditions, this variety of herpes occurs on the mucous membrane of the hard and soft palate, on other parts of the face, and in the nasal passages.

Herpes labialis is generally a trivial affection and requires no special treatment. Its occurrence during fevers suggests the administration of *Natrum muriaticum*. The application of *Cold cream*, or a lotion of equal parts of *Calendula* and *Glycerine* will generally give speedy relief.

HERPES PRÆPUTIALIS.

Herpes præputialis occurs either on the outer or inner surface of the prepuce. It appears first in the form of a reddened patch about the size of a silver five cent piece which is soon covered with a cluster of transparent vesicles. The eruption is preceded and accompanied by a smarting, burning, sensation.

When the eruption appears on the inner surface of the foreskin the vesicles soon rupture; the parts become irritated and inflamed from the presence of the sebaceous secretion, or the contact of the two surfaces of mucous membrane, so that they become covered with a purulent or diphtheritic secretion. In such cases dry lint should be placed between the foreskin and glans to prevent contact, and to absorb the secretions. If there is much irritation and swelling, the parts should be bathed frequently with warm water, and afterwards anointed with *Olive oil* or *Vaseline*.

The remedies are *Dulcamara*, *Hepar sulphur*, and *Merc.*

sol. A few doses of *Merc. sol.* with proper attention to cleanliness will generally be sufficient.

HERPES IRIS.

Herpes iris, as its name implies, begins with a central vesicle around which new clusters of vesicles develop. These clusters may coalesce and form a large bleb, or the center dries up while additions continue to form on the periphery assuming different conditions. The inner vesicles will become purulent, the next sero-purulent, while the outer vesicles will contain serum alone.

HERPES CIRCINATUS.

Herpes circinatus, or ringworm is only another form of herpes iris, in which the eruption dries in the center while spreading peripherally, thus assuming the form of a ring or rings of minute vesicles which dry into very thin crusts. Some itching and burning attends the eruption. It may appear on any part of the body. The duration of the disease is from eight to fourteen days. It is liable to reappear.

Many writers regard herpes iris, and circinatus as parasitic diseases, and consider them under that head. The disease is occasioned by the presence of a parasite known as the *trichophyton tonsurans*.

Treatment.—Local applications of dilute *Acetic acid*, or a solution of the second decimal trituration of *Hepar sulphur*, are effective in destroying the parasite.

HEPAR SULPHUR is the principal remedy.

CHAPTER III.

PUSTULÆ.

ECTHYMA — DEFINITION — SYMPTOMS — TREATMENT. IMPETIGO—SYMPTOMS—VARIETIES OF—TREATMENT.

THE pustular eruptions are *ecthyma* and *impetigo*. Neumann places *acne* in this class instead of among the *tuberculæ*.

ECTHYMA.

Neumann defines *ecthyma* as consisting of large pustules, single, and showing a circular periphery. The pus contains blood, and dries into a dark brown scab.

Dr. Squairs defines it as consisting of an eruption of large, rounded, single, flattened pustules, resting on an inflamed base, and giving rise to the formation of a dark colored adherent crust, which, on separating, discloses a brownish or purplish red stain, which is slow to disappear.

Symptoms.—Upon inflamed elevated round patches the size of a pea, distinct from each other, appear pustules corresponding in size with the patches, surrounded by a red areola.

The pustules are filled with a yellow matter, or if blood is mixed with the pus the contents are of a dark red color. In the course of a few days the pustules dry up and are replaced by brown, hard, thick crusts, which falling off leave excoriations and red stains, which last for a considerable time.

Successive crops of pustules are formed during the course of the eruption, which lasts for two or three weeks. The most common seat of the eruption is on the limbs and neck. Acute *ecthyma* is preceded by some feverishness and by a smarting and tingling at the seat of the eruption.

Chronic *ecthyma* occurs in children who are placed under unfavorable sanitary conditions, and in adults whose vitality is impaired by excesses or old age. It is much more serious than the acute form.

In the chronic form the pustules are larger and flatter, and

contain a dark colored sanious pus, and are surrounded by a dark red or livid areola. The pustules dry up in hard black crusts, under which is found a pale unhealthy looking ulcer.

Causation.—The predisposing causes are want of personal cleanliness, impure air, insufficient nourishment, exposure to cold and moisture, and excesses of all kinds. Exciting causes are local irritation as scratching, local irritants, and the *acarus scabiei*.

Diagnosis.—Ecthyma may be confounded with rupia, impetigo, and acne. Rupia and ecthyma resemble each other, but in the former the eruption appears vesicular at first, the crust is larger and presents a stratified appearance by the formation of successive layers, and is thicker in the middle.

In impetigo the pustules are smaller, more numerous, and set closely together, and frequently become confluent. They are lighter in color, softer, and more extensive. Acne begins with papules. The pustules rest on an indurated base and are pointed. The eruption of acne is confined to the face and shoulders, while ecthyma generally appears on the limbs.

Prognosis.—When caused by local irritation the prognosis is favorable. If the disease occurs in cachectic children, or in individuals debilitated by excesses or age, the prognosis should be guarded both as to duration and termination.

Treatment.—Removal of the exciting and predisposing causes, and the improvement of the general health, are the first measures indicated. The remedies chiefly called for are, *Antimonium crudum*, *Tartar emetic*, *Arsenicum*, *Kali bi*.

IMPETIGO.

(*Synonyms*, CRUSTED TETTER, PORRIGO FAVOSA, CRUSTA LACTEA.)

Impetigo is an eruption of small pustules set thickly together, often becoming confluent, and forming thick moist yellowish crusts.

Symptoms.—Impetigo commences with an eruption upon a reddened patch of skin of numerous small pustules closely grouped together. In a few days the pustules burst and their thick purulent contents dry up into yellowish crusts underneath which there continues to be a purulent discharge. The crusts are moist, thick and after having lasted some time assume a lamellated appearance.

Impetigo occurs most frequently in children, especially those of scrofulous constitution and lymphatic temperament. When it affects adults it is chiefly those of impaired consti-

tutions. The disease is not commonly preceded or attended by any constitutional disturbance nor by much local irritation.

Varieties of.—The principal varieties of impetigo are *impetigo figurata*, and *impetigo sparsa*.

In impetigo figurata a large number of pustules are crowded together in a group, occupying a limited area. In impetigo sparsa the pustules are scattered over a considerable area, in small circumscribed clusters. If the disease appears on the hairy parts of the face it is called *impetigo sycosiformis* from its resemblance to sycosis. When it affects other portions of the face it is called *impetigo larvalis*.

Causation.—Neumann gives as causes, lymphatic temperament, hereditary transmission, dentition, impaired health, contact of irritating substances, heat, pediculi, scabies, long continued moisture. It occurs after erysipelas and variola.

Diagnosis.—Impetigo is often confounded with eczema. In severe and protracted cases of eczema, especially when the exudation of the latter disease has become purulent, it is very difficult to discriminate. Several writers consider impetigo a variety of eczema.

In eczema the disease is at first vesicular, and the contents of the vesicles are serous; the crusts are also thinner. From sycosis, impetigo sycosiformis may be distinguished by the absence of subcutaneous inflammation and ulceration.

Prognosis.—The prognosis is favorable. The acute form lasts from two to three weeks; the chronic may last several months.

Treatment.—The utmost attention should be paid to cleanliness. If pediculi or scabies are the exciting cause the parasites should first be destroyed; emollient applications should be made in order to soften and remove the crusts. If the scalp is affected the hair should be cut close to prevent matting. An ointment of *Hepar sulphur* is an excellent local application. If the health of the patient is impaired appropriate medication is required.

The remedies especially indicated are *Ant. cru.*, *Calc. carb.*, *Croton tig.*, *Iris*, *Kali bi.*, *Staphysagria*, *Viola tri.*

Impetigo sparsa so nearly resembles impetigo figurata, ecthyma and the purulent form of eczema that no special indications for the treatment of the disease need be given. The indications and symptoms detailed in the article on eczema, will be sufficient for the treatment of the majority of cases of impetigo.

CHAPTER IV.

PAPULÆ.

STROPHULUS—SYMPTOMS—TREATMENT. LICHEN—SYMPTOMS—VARIETIES OF—TREATMENT. PRURIGO—SYMPTOMS—VARIETIES OF—TREATMENT. PRAIRIE ITCH—SYMPTOMS—TREATMENT.

THE papular diseases include strophulus, lichen, and prurigo.

STROPHULUS.

(*Synonyms*, RED GUM, TOOTH RASH.)

Strophulus is an acute cutaneous affection peculiar to infancy and early childhood, characterized by an eruption of minute slightly acuminate papules distinct from each other. The most common varieties are *strophulus intertinctus*, in which the papules are of a livid red color sparsely scattered over the surface, and often intermingled with erythematous patches; and *strophulus candidus*, in which the papules are larger, have smooth and shining surfaces, and are whiter than the surrounding skin.

Other varieties as *confertus*, *volaticus*, and *albidus*, are only modification of the two first mentioned. Strophulus chiefly affects the parts of the body most exposed as the face, neck, and upper extremities but may also appear on other parts. It is generally attended with some feverishness and restlessness. Its average duration is about a week.

Causation.—The causes of strophulus are: wearing rough flannel next the skin, gastric disturbances, induced by errors in the diet of the mother, or by the ingestion of improper food by the patient, want of cleanliness, heat.

Strophulus is a trivial affection, and requires no special treatment. A change of diet if there is gastric irritability, attention to cleanliness and proper clothing, are all the measures usually necessary.

If the affection is caused by painful dentition *Belladonna* may be useful. If the gums are much swollen they should be lanced.

LICHEN.

(*Synonym*, DRY ITCH.)

Lichen consists of an eruption of small papulæ clustered together on an inflamed portion of skin; it is attended with a burning itching. After a time the summits of the papulæ become covered with white branny scales, or in some cases with blackish looking crusts, in consequence of repeated scratchings. The skin in time becomes thickened and rough, and is seamed with small fissures, especially in those places where the skin is frequently stretched.

The varieties of lichen are *lichen simplex*, *lichen circumscriptus*, *lichen agrius*, and *lichen inveteratus*.

These appellations apply to the appearance, extent, and persistency of the eruption. *Lichen simplex* is, as the name implies, a mild form of the disease. *Lichen circumscriptus* is that variety in which the eruption appears in small circumscribed patches about the size of a dollar, with well defined outlines. *Lichen agrius* is ushered in with some constitutional symptoms, such as fever, and the eruption is a mixture of papules, vesicles and pustules so that the disease partakes of the character of eczema and impetigo. *Lichen inveteratus* is an extremely chronic variety of the disorder, characterized by considerable thickening of the integument, and unusual depth of the fissures.

Symptoms.—The symptoms attending lichen are more or less severe burning and itching, becoming worse towards night. It affects chiefly the backs of the hands, the fore part of the thighs, and the back of the neck and trunk.

Causation.—The causes are hereditary predisposition, nervous temperament, certain occupations which expose a person to great heat, as that of cook, working in foundries, etc. The disease may also be induced by depressing mental emotions, over indulgence in rich food, and excessive drinking.

Lichen is met with at all ages, but more frequently in adult life. It is more common with men than women, and in summer than other seasons of the year.

Prognosis.—Lichen is a troublesome affection on account of its tendency to become chronic, the frequent relapses that are liable to occur, and the severe itching which accompanies it. It is in no way dangerous to life.

Treatment.—If the patient is suffering from debility, measures should be taken to improve the general health by generous diet, and fresh air and exercise.

Local applications are usually needed. Lotions of a weak solution of *Carbolic acid*, or *Hydrocyanic acid*, will be beneficial in the milder cases. Tepid baths and exclusion of the air, by anointing the affected surface with *Olive oil*, *Cosmolini*, *Cold cream*, and *Glycerine*, will be found serviceable in allaying the irritability and itching of the skin.

In severe cases, a lotion of one-fourth ounce *Sulphuret of Potash* to a quart of water is recommended. The patient should be washed with the lotion, and soon after be sponged with tepid water. Kippax recommends *Grindelia lotion* for lichen.

The principal remedies are: *Antimonium crudum*, *Arsenicum*, *Caladium*, *Ledum*, *Rumex*, *Staphysagria*, and *Sulphur*.

ANTIMONIUM CRUDUM.—Lichen agrius; papular eruption from gastric derangement, pimples, vesicles, and pustules on face and limbs.

ARSENICUM is especially indicated in the chronic and severer forms of lichen. It has been largely used by the Allopathic school. Hebra relied principally on it, giving one-tenth of a grain several times a day.

It is homeopathic to the disease, as its pathogenesis contains all of the subjective and objective symptoms. These are papular eruptions, scaling of the epidermis, with intense itching and burning.

RUMEX.—Legs covered with small red pimples; stinging itching of the skin.

CALADIUM.—Papular eruption sore to the touch, with violent itching and burning.

PRURIGO.

Prurigo is a chronic cutaneous disease characterized by the formation of small red papules, rather larger than a pin's head, and attended by a most distressing itching. The summits of the papules when rubbed off by scratching are succeeded by bloody brownish crusts. Some of the papules are deeper seated than others, and are only perceived by the touch. In persons of delicate sensitive skins, the irritation produced by the papular eruption develops also wheals similar to those of urticaria. With the progress of the disease the skin becomes thickened, and darker in color. Pustules also appear which dry into crusts.

Prurigo may extend over a considerable surface, or be confined to a limited portion of the body. It usually commences

with a violent itching, which is soon followed by an eruption of small flat papules. The scratching soon tears off the tops of the papules, which are succeeded by brownish crusts. In the milder forms, *prurigo mitis*, the irritation is not very severe except towards evening.

In a severe variety, *prurigo formicans*, the irritation is much more intense. The itching is of a burning, pricking, character and resembles the crawling of a multitude of ants over the body. The patient is irresistibly impelled to scratch, and even tear the skin with the nails. The itching is worse at night, and often deprives the patient of sleep for nights in succession. It is also aggravated by over eating, by drinking spirits, or by the warmth of a fire. The crusts caused by scratching are darker and thicker than in the milder forms of the disease.

Another variety, *prurigo senilis*, chiefly observed in the aged, entails a great deal of annoyance, and on account of the great irritation and consequent loss of rest and sleep, produces considerable constitutional disturbance. In this variety the papular eruption is associated with pustular and erythematous rashes.

Some varieties of prurigo are named from the localities affected. Of these are, *prurigo pubis*, *prurigo ani*, *prurigo scroti*, etc.

Prurigo affects all ages of life, but the disease assumes a milder form in the young than in those of middle and advanced life. Prurigo occurs chiefly on the outer side of the lower extremities, but not infrequently affects the back of the neck and shoulders, the upper part of the chest and the nates.

Causation.—The causes of prurigo are lack of cleanliness, nervous diseases, drunkenness, old age, the irritation of various animal parasites, as the crab-louse, *acarus*, *scabiei*, etc.

Diagnosis.—The determining points are, the small, flat, slightly elevated papules, covered with a black crust of dried blood. Occasionally the disease is difficult of recognition, on account of its being associated with eczematous and pustular eruptions.

Prognosis.—Except in recent cases occurring in children the prognosis is not favorable as regards a cure, the disease being exceedingly intractable. In severe cases occurring in persons past middle life the constant irritation, and broken rest must tend to seriously impair vitality and shorten life.

Treatment.—The local applications most likely to benefit the patient are warm baths, washing with potash soap, inunction

tions with oily substances, *Tar* and *Sulphur* baths, and lotions of *Mezereum*, and *Rumex*.

The remedies are *Arsenicum*, *Dolichos pruriens*, *Mezereum*, *Lycopodium*, *Iodine*, *Mercurius*, *Sepia*.

Each case will need to be carefully studied for concomitant symptoms, in addition to those characteristic of the disease.

The pathogeneses of *Arsenicum* and *Mezereum* resemble closely the cutaneous symptoms of prurigo.

PRAIRIE ITCH.

There is a variety of prurigo called the *prairie itch*, on account of its prevalence in the prairie regions of the West. Twenty-five years ago it was quite common in Iowa, and was a distressing and obstinate disease. In the more thickly settled portions of the state where the soil has been most extensively cultivated it has nearly disappeared.

It appears usually, first, on the arms, as small circular red spots, attended by an intense itching. The spots become slightly elevated above the surface assuming the form of papules, on the summit of which is a minute vesicle. The itching increases in intensity and becomes of a burning, stinging character. Scratching ruptures the vesicles which secrete an acrid fluid excoriating the surrounding skin. In many cases a number of the papules coalesce, and form crusts of considerable size. The eruption may attack any region of the body, but is usually located on the arms and legs. The treatment is in general the same as for prurigo.

I found a lotion composed of one-half ounce of *Sulphuret of Potash* to a quart of rain water, to be the most effective external application.

CHAPTER V.

BULLÆ.

PEMPHIGUS—SYMPTOMS—TREATMENT. RUPIA—SYMPTOMS—TREATMENT.

PEMPHIGUS.

BULLOUS diseases of the skin comprise Pemphigus and Rupia.

Neumann defines pemphigus as a cutaneous affection, in which the epidermis of one or many regions of the skin or mucous membrane is raised into blebs, from the size of a pea to that of a quarter of a dollar or even larger, whose contents may at first be clear or yellowish, but afterwards become cloudy or purulent, while the surrounding skin is either normal in color or reddened. When the blebs are healed a dark spot remains; more rarely a cicatrix. The eruption appears in successive crops, and is generally characterized by some febrile disturbance. In a few days the fluid in the blebs is absorbed. The covering with some of the contents dries into a thin scale, which falling off leaves a reddened but otherwise healthy spot. The contents seldom become purulent, unless the eruption is irritated, in which case ulceration and a resultant cicatrix may follow. Pemphigus may be either acute or chronic. The duration of acute pemphigus is from two to four weeks.

Acute pemphigus consists of several varieties: First, *solitary*; seen in old people in which a single bleb about the size of a dime appears, usually on the leg, rapidly increases in size, and becomes tense with serum. After remaining stationary a day or two, it shrivels up and in about a week disappears. A second and third bleb may appear in succession near the seat of the first. The appearance of each is preceded by a feeling of burning and itching in the affected part.

In the second variety, *acute general pemphigus*, several rose colored patches appear, accompanied by tingling and itching,

on which transparent blebs are soon developed. These either dry up and form thin crusts, or burst disclosing excoriated patches, which form thin, dark colored crusts.

A third variety is peculiar to new-born infants, and affects the palms of the hands and soles of the feet. The blebs vary in size from that of a pea to that of a dime. They contain a transparent yellow serum, and are surrounded by a dark colored areola. The blebs soon burst and are succeeded by superficial ulcers, which become covered with thin black crusts. Successive crops of blebs appear and are accompanied by vomiting, diarrhœa, and progressive emaciation. Many writers regard this variety of pemphigus to be a form of infantile syphilis. It is very apt to terminate fatally.

Chronic pemphigus is characterized by the great length of time during which the successive crops of blebs appear. It differs from the acute form, by the absence of the reddish areola around the bleb, by the greater turbidity of the contents, and by a less degree of fever. In the chronic form the skin regains its normal appearance more slowly. Chronic pemphigus appears in individuals of diminished vitality, either in consequence of old age or from other causes.

Neumann describes a variety of the chronic form which is called *pemphigus foliaceus*. In this the blebs are small, their covering flaccid, not tense, their contents milky or yellow, which dries into crusts. The blebs crowd closely together in some cases, soon rupture, and leave the surface covered with little lamellar crusts, which resemble in color, consistence, and thinness, the layers of a piece of light pastry. These flakes adhere loosely to the skin, are easily detached, and readily reproduced.

Causation.—The causation of pemphigus is obscure. It is not peculiar to age, sex, or physical condition. Innutrition, exposure to cold and wet, and debility are assigned as causes.

Diagnosis.—Pemphigus may be mistaken for herpes zoster, impetigo, rupia, erysipelas, and variola. It can in general, however, be readily distinguished from these affections by the absence in pemphigus of the characteristic peculiarities of the other affections.

Prognosis.—The prognosis is favorable except in pemphigus of new-born children, and in the chronic form of the disease when attended by much debility. In all cases there is a liability to recurrence.

Treatment.—The patient should be placed under favorable hygienic conditions, and due regard be paid to nutrition, suitable clothing, etc.

The remedies to be considered are few, *Arsenicum*, *Lachesis*, and *Rhus*, being the principal.

RUPIA.

Rupia is an eruption of large flat single blebs, which are filled first with a serous, but afterwards with a purulent fluid, and are replaced with dark crusts thicker in the middle than at the edges. Under these crusts are shallow uleers. Several crops of blebs make their appearance in succession.

There are three varieties of rupia; namely, *rupia simplex*, *rupia prominens*, and *rupia escharotica*.

Rupia simplex.—In this variety the disease begins in the form of flat blebs, varying in size from a five cent piece to a quarter of a dollar. The blebs are filled first with a serous fluid which soon becomes purulent. The bleb finally dries up into a dark brown crust, thicker in the center than at the circumference. When the crusts are detached they disclose shallow indolent uleers, which finally heal leaving livid red stains which continue for some time.

Rupia prominens begins as small rounded inflamed spots on which the blebs are soon developed. The contents of the blebs are dark colored and sanious. The blebs are succeeded by dark colored crusts, surrounded by dark red areola. The areola in turn becomes a bleb, and is replaced by a crust. Thus by successive additions a crust is formed of considerable size, laminated and thicker in the center than at the circumference. When the crust is detached there appears a pale spongy, ragged uleer, which bleeds easily. This heals slowly and leaves a dark red stain which remains for a considerable period.

Rupia escharotica.—This is a severe and painful form of rupia. The blebs instead of changing to crusts, form foul ragged ulcers with livid raised edges. The ulcers are very slow to heal, are painful and attended with fever.

Rupia, other than the syphilitic form of the disease, is an exceedingly rare affection. Some authors regard it as a distinctly syphilitic affection, and so consider it in their works.

Treatment.—Hygienic measures are an important consideration in the treatment of rupia. Measures should be taken to improve the general health, among which are good nourishing diet, fresh air, salt baths, change of climate, etc.

The remedies which are indicated are, *Thuja*, *Arsenicum*, *Graphites*, *Staphysagria*, *Nitric acid*, *Sulphur*.

CHAPTER VI.

SQUAMÆ.

PSORIASIS—SYMPTOMS—VARIETIES OF—TREATMENT. PITYRIASIS—SYMPTOMS—VARIETIES OF—TREATMENT. ICHTHYOSIS—SYMPTOMS—TREATMENT.

THE squamous or scaly eruptions are Psoriasis, Pityriasis, and Ichthyosis.

PSORIASIS.

(*Synonym*, DRY SCALY TETTER, HERPES FURFURANS.)

Psoriasis is a cutaneous affection characterized by the appearance of thick, white, shining scales on a reddened base, from which they can be easily detached. The quantity of scales varies with the duration of the disease, being greatest soon after its appearance, and decreasing as it becomes chronic.

Varieties.—The disease commences with the appearance of small white scales of the size of a pin head, *psoriasis punctata*. These enlarge peripherally until they attain the size of a split pea, or a silver five cent piece, resembling the splashes of mortar, *psoriasis guttata*; when the patches grow to the size of a half dollar or a dollar piece it is called *psoriasis nummularis*. When the eruption heals in the center, and extends peripherally it is called *psoriasis orbicularis*. If it extends irregularly forming variously shaped serpentine lines, it is designated *psoriasis gyrata*. If a large surface of the skin is affected, covered with thick scales and seamed with fissures, it is called *psoriasis inveterata*, or *diffusa*. Other varieties derive their names from the locality of the disease; as *psoriasis palmaris*, when it affects the palms of the hands; *plantaris* when it affects the soles of the feet; *faciei*, the face; *capitis* the hairy scalp, etc.

If a crust of some size is removed it is found to be about the thickness of card-board, and to consist of thin dry imbricated scales arranged in strata. The skin underneath is slightly elevated and of a tawny red color.

Psoriasis generally first makes its appearance on the elbows and knees. It may exist in these localities for years before making its appearance elsewhere. The face, scalp, hands, and feet are not infrequently the seat of the disease. The eruption, when it first appears, is attended with some itching; when it becomes chronic it is seldom very troublesome. The patient in severe cases suffers some pain and annoyance from the fissures which appear and from want of elasticity of the skin. Motion is sometimes difficult and painful.

The duration of psoriasis is from a few weeks to several years; in very obstinate cases it may last the better part of a lifetime. The cause of the disease is obscure; much has been advanced concerning its etiology, but nothing has been definitely determined. It attacks those in robust health as well as those suffering from debility.

Diagnosis.—The diagnosis is usually readily determined by the locality of the eruption, the shining imbricated appearance of the scales, and by the wrinkled and tawny red color of the skin beneath them.

Prognosis.—The prognosis is favorable in recent and mild cases. When the disease occurs in persons of advanced years, and has existed for some time, it is more intractable and may resist treatment for years.

Treatment.—The treatment is local and general. Inunctions with *Cosmoline* or *Olive oil* are beneficial. They soften the scales, promote their removal, and are soothing to the inflamed surface after they are detached. Applications of *Tar*, and washing with *Tar soap* are also excellent applications. Kippax prescribes *Chrysophanic acid*. It may be used as an unguent, five grains of the acid to an ounce of *Vaseline*.

Arsenicum is the principal remedy. It may be given in the third dec. trit., two grains once in four hours. Other remedies occasionally indicated are *Phosphorus*, *Iris*, *Sepia*, and *Selenium*.

PITYRIASIS.

(*Synonym*, DANDRUFF, BRANNY TETTER.)

Pityriasis is a superficial and chronic inflammation of the skin, generally attended with some redness and itching, and characterized by the formation and exfoliation of small thin scales.

The most common location of the disease is the hairy scalp, and the parts covered with hair, though it not infrequently

affects other regions. The formation and exfoliation of the scales take place copiously and incessantly. With the exception of more or less itching, the affection gives rise to no constitutional disturbance. It occurs at all ages, but children and persons of dark complexion are more liable to be affected. There are several varieties of pityriasis; namely,

Pityriasis alba, attacks the scalp and hairy parts of the face. In this variety the principal symptom is an abundant desquamation of minute scales. They are easily detached by scratching with the fingers or a comb. There is some itching but no redness.

Pityriasis fusca, occurs on the face and neck in variable sized patches. There is some slight redness of the skin, and a formation of minute white scales easily detached. Scratching or other irritation excites smarting and burning.

Pityriasis rubra is characterized by the formation of larger and more adherent scales than in the other varieties, and the skin is more reddened. It appears usually on the chest.

Pityriasis pilaris affects only the orifices of the hair follicles. It may attack any part of the body except the scalp. The orifices of the hair follicles become thickened, and surrounded by dry branny scales. The skin becomes dry, harsh, and rough, and resembles the condition known as "goose skin." Pityriasis is essentially a chronic disease, lasting from six months to several years.

Diagnosis.—Pityriasis is to be distinguished from psoriasis by the much smaller size of the scales, their abundance, constant reproduction, and the ease with which they are detached.

Treatment.—Weak solutions of *Hepar sulphur*, or *Acetic acid*, are good local applications. *Glycerine* is an excellent local palliative. If the scalp or face is affected, and the desquamation is excessive the hair should be cut close.

Arsenicum, third dec. trit., is the principal remedy.

ICHTHYOSIS.

(*Synonym*, FISH-SKIN DISEASE.)

Ichthyosis is characterized by the development upon a greater or less surface of the body of thick, dry, hard, imbricated scales, of a dirty gray color. The skin underneath is not inflamed; there is no itching nor sensitiveness, nor any constitutional disturbance. It is sometimes general, affecting the whole body except the face, the palms of the hands, the soles of the feet and the flexure of the joints. When partial, it affects by preference the elbows and knees.

In some cases the epidermis is greatly thickened and hardened, and deeply fissured so as to form a series of horny excrescences of a dark brown color.

The disease is congenital and in some cases hereditary. While not fatal to life, yet as regards cure the prognosis is unfavorable. Ichthyosis is a rare disease, being seldom met with in this country.

Treatment.—The treatment is largely palliative. Vapor and alkaline baths, inunctions with *Olive oil* and *Vaseline*, may relieve the harshness and roughness of the skin. As an internal remedy, *Arsenicum* promises the most favorable results.

CHAPTR VII.

MACULÆ.

NÆVUS—VARIETIES—SYMPTOMS—TREATMENT. LENTIGO—SYMPTOMS—TREATMENT. EPHELIS—SYMPTOMS—TREATMENT. VITILIGO—SYMPTOMS—TREATMENT.

THE macular diseases of the skin are Nævus, Lentigo, Ephelis, and Vitiligo.

NÆVUS.

Nævus is a congenital affection of the skin and is of two varieties; namely, *vascular nævus*, or mother's mark, and *pigmentary nævus*, or moles.

Vascular nævus consists of a permanent discoloration of the skin, with or without elevation of the surface. The color may be a bright or dark red or even purple, and depends upon the depth of the stain, and its communication with arterial or venous vessels. The superficial stains depend upon an excessive development of the cutaneous capillaries; the more deep seated are due to a net work of dilated arteries or veins.

The spots vary widely in size; sometimes they are minute red dots with fine lines radiating from them (*nævus araneus* or spider mark), but often they cover a considerable surface of the skin. They are most commonly found on the neck and face, though occasionally they appear on other parts of the body.

Pigmentary nævus or mole—Moles usually occur as small rounded stains, of a faint tawny, yellow, or brownish color. The cutis is usually raised and thickened, and the elevation is frequently surmounted by a tuft of hairs. They generally appear upon the neck, face, and hands.

Causation.—Nothing is known as to the determining causes of nævi. There is a popular idea that they are caused during foetation, by some longings or aversions of the mother.

Prognosis.—Both varieties of nævus are liable to be permanent. Some of the vascular nævi either disappear or grow paler, during the first few months after birth.

Treatment.—Cases are reported cured with *Thuja*, *Carbo. veg.*, and *Calc. carb.* In general the treatment is purely surgical. Scarification is most generally resorted to in the treatment of vascular nævus. The affected part is scarified with numerous parallel incisions; when healed the incisions are to be repeated across the previous line of scarifications. From six to twelve successive operations are necessary.

To remove moles; caustics, the knife, or curved scissors may be used. The resulting cicatrix is usually slight. It must be admitted, however, that operations for large nævi too often result in more extensive disfigurement than was caused by the nævus itself.

LENTIGO.

(*Synonym*, FRECKLES, EPHELIDES.)

Lentigo or freckles consists of light or dark brown spots of the size of mustard or hemp seed, appearing principally on the uncovered parts of the body. The disease is caused by an excess or unequal distribution of the pigmentary secretion of the cutis. The spots may be single and evenly scattered over the affected surface, or may occur in groups. The face, neck, and hands are chiefly affected. The skin not covered with freckles is usually white, in consequence of the concentration of the pigment in the spots.

Lentigo is congenital or appears during childhood. It most frequently occurs in persons of fair complexion, and auburn or red hair. No itching, or any sense of discomfort attends lentigo, neither is it followed by any desquamation of the epidermis.

Causation.—The causes are congenital formation, childhood, light complexion, exposure to the sun's rays.

Prognosis.—Freckles, if congenital, are sometimes permanent, but often disappear at adult age. If they are developed during childhood, they generally disappear after puberty. If caused by exposure to the sun's rays, they disappear with the cause inducing them.

Treatment.—The internal use of *Kali carb.*, *Sepia*, *Lycopodium*, and *Sulphur*, is recommended.

Kippax recommends the local application of a lotion of one part of *Mercurius corrosivus*, to 100 parts of *Emulsion of Almonds*, to be applied night and morning.

EPHELIS.

Ephelis is a yellowish-brown discoloration of the skin occurring in patches. Ephelis first appears in brownish col-

ored stains about the size of a silver five cent piece, which slowly increase in diameter until they may reach the size of a dollar.

The disease is simply due to an increase of pigment, and is unaccompanied by any thickening or induration. In some cases there is slight itching, but otherwise there is no local sensation or disturbance of the health.

Ephelis is not congenital, nor a complaint of childhood, but appears after adult age has been reached. The spots appear commonly on the face, chest, and arms. In pregnant women they chiefly appear on the forehead. Pregnancy and exposure to the sun's rays during hot weather, are the most frequent causes.

Diagnosis.—Ephelis may be confounded with chloasma, and macular syphilide. Chloasma is distinguished by the presence of the *Microsporon furfur* in the epidermal scales, and also by considerable itching and desquamation. Syphilitic eruption may be recognized by the coppery tinge of the stains, and by the history of the case.

Prognosis.—The spots often disappear with the cause which gives rise to them, after delivery and during the winter months.

Treatment.—The remedies are *Sepia*, and *Kali carb.* A lotion of *Mercurius corrosivus*, two grains to the ounce of water is a useful local application.

VITILIGO.

(*Synonyms*, LEUCODERMA, MACULA ALBA.)

Vitiligo consists in the appearance of milky white patches on the skin, caused by a diminution of the pigmentary secretion. It commences as small white dots which slowly increase in size. The spots may be small and irregular, or extended over large tracts. If there are any hairs on the affected parts they also become white. The skin is not changed in any respect save in color, but remains as smooth and thin as the surrounding surface.

Vitiligo principally affects the uncovered parts of the body, and also the pubes, axillæ, and scalp. The disease is more frequent in the dark races than in the white. In negroes the discoloration is more striking, constituting what is called the *pied-negro*. When the discoloration in the negro is general it constitutes albinism.

Vitiligo is in general a permanent affection. When not congenital it occasionally disappears spontaneously.

No effective remedies for this disease have been discovered.

CHAPTER VIII.

TUBERCULÆ.

ACNE—SYMPTOMS—VARIETIES—TREATMENT. LUPUS—SYMPTOMS—VARIETIES—TREATMENT. CHELOID—SYMPTOMS—TREATMENT. VERRUCA—SYMPTOMS—TREATMENT. MOLLUSCUM—SYMPTOMS—TREATMENT.

THE tuberculous eruptions are Acne, Lupus, Cheloid, Verruca, and Molluscum.

ACNE.

(*Synonyms*, STONE-POCK, PIMPLES, COMEDONES.)

Neumann puts acne in the class of pustular eruptions, instead of the class of tuberculæ.

Acne is defined as an affection of the sebaceous glands and hair follicles consisting of either an excess or alteration of the secretion of these structures, or an inflamed condition of them. Hardly any two writers on cutaneous diseases agree in the classification of what is called acne; Hardy, Tilbury, Fox, Willan, Hebra, and Cazenave, have each a different classification. The most simple classification is that which considers acne under the following heads: *Acne simplex*, *acne indurata*, *acne punctata*, and *acne rosacea*.

Acne simplex begins by the formation of small, slightly inflamed, conoidal red points. On the summit of each appears a pustule about the size of a pin's head, surrounded by a narrow red areola. The development of acne simplex is not accompanied by itching, or by any constitutional disturbance. The pustule finally bursts, and is replaced by a small scab which falls off in two or three days. The eruption appears in a succession of pustules each of which lasts five or six days.

Its most common seat is the forehead, neck, and shoulders. The disease seldom attacks young children. It generally appears at or soon after the age of puberty, and is much more frequent at this age than subsequently.

Acne indurata is a severer variety in which the sebaceous glands are more deeply involved. It begins with an indu-

rated elevation of a dark red color, on which a pustule forms which lasts several days. The induration remains some time after the pustule disappears, and when it subsides leaves behind it a small scar.

Tubercles also appear from the size of a pea to a hazel nut, which gradually soften and contain a cheesy matter. These little abscesses either open and discharge their contents, or absorption takes place. In either case a scar is left.

Acne punctata, or comedo appears as small black spots on the skin. It consists in an accumulation of sebum plugging up the duct of the sebaceous gland. The black appearance is caused by the contact of the air, or dust with the open mouth of the duct. By firmly pressing with a watch-key over the black point a white or yellow substance, which is the accumulated sebum, comes out. This resembles a small maggot with a black head, whence it is popularly called a "skin maggot." *Acne punctata* is a chronic affection, and may last for several years. Its most common seat is on the forehead and around the *alæ* of the nose. Less frequently it appears on the shoulders and back. It terminates either by the spontaneous escape of the contents of the gland, or by ulceration and discharge of sebum, mingled with a small quantity of purulent matter.

Acne rosacea affects the face, principally the nose and chin. Neumann defines it as a chronic inflammation of the skin, caused by prolonged stasis in the capillaries, whereby the skin is reddened, the existing vessels enlarged, or new ones are formed. When the disease is of long standing, tumors are formed by cell infiltration, and hyperplasia of the connective tissue deep in the skin. The appearance of the eruption is a bright red, occurring in irregular patches, giving the skin a mottled appearance. The venous radicles often present a varicose appearance. It is a disease peculiar to persons of middle or advanced life, and affects women oftener than men. It is subject to exacerbations; being aggravated by use of stimulants, by exposure to wind, or to the heat of the sun, and in women at the approach of the menstrual period.

Causation.—*Acne simplex*, *acne indurata*, and *acne punctata*, are diseases of youth. We know but little of its causes except that it most commonly attacks individuals of scrofulous and lymphatic temperament, and those suffering from gastric or uterine derangements.

Diagnosis.—The diagnosis of acne is usually determined without difficulty.

Prognosis.—The prognosis regards duration alone. It is a chronic affection, and often lasts for years in spite of well directed treatment.

Treatment.—Kippax recommends local applications for the relief of the various forms of acne as follows: *Hypochloride of Sulphur*, one part; *Rose water*, forty parts. *Iodide of Sulphur*, one part; *Rose water*, forty parts. *Sulphur*, one part; *Ether*, and *Alcohol* each, fifteen parts. *Mercurius corrosivus*, one to two parts; *Alcohol*, and *Rose water*, two hundred and forty parts. *Rumex crispus tinc.*, one part; *Alcohol* and water each, three parts. *Potassium sulphide*, one part; *Emulsion of Almonds*, thirty parts.

The *Rumex* lotion the preparations of *Sulphur*, and the *Mercurius corrosivus* lotion are adapted to acne simplex. The *Potassium sulphide* lotion is adapted to acne indurata. The parts should be washed with warm water and soap before applying the lotions.

Vapor baths are useful in softening the contents of the glands and ducts, and promoting their expulsion. *Tar soap* has also proved useful.

There is a variety of acne known as *tar acne* produced by the free handling of tar or constant inhalation of its vapor. The remedy is, therefore, pathogenetic.

Newmann recommends in *acne punctata* that the plugs of sebum be expressed by the persistent use of a watch-key, or the comedo extractor.

The remedies are *Antimonium crudum*, *Tartar emetic*, *Carbo. animalis*, *Arsenicum*, *Potassium. bromide*, *Petroleum*, *Pulsatilla*, *Phosphoric acid*, *Calc. carb.*, *Sulphur*.

ANTIMONIUM CRUDUM.—For acne simplex and punctata, I have found *Antimonium crudum* a very efficient remedy. It is especially indicated in cases dependent upon gastric derangement. Also, for acne rosacea of drunkards, with tubercles on the nose of shining redness and irregular outlines.

TARTAR EMETIC is suitable for acne indurata.

CARBO ANIMALIS is indicated in acne rosacea, particularly when the eruption is situated on the nose. I have found it most efficient in the sixth dec. trit.

ARSENICUM is also curative in acne rosacea. The special indication is tenderness and sensitiveness of the eruption.

BROMIDE OF POTASSIUM in large doses causes an eruption like acne simplex, on the face and neck. The remedy is worthy of a more extended trial than has hitherto been given it.

PULSATILLA is indicated in *acne punctata*, occurring in women and young girls.

PETROLEUM.—For *acne rosacea*. The eruption is of a coppery red color, subject to frequent exacerbation. *Acne rosacea* of young women; the eruption is much worse during the menstrual period.

PHOSPHORIC ACID.—*Acne simplex* of boys at the age of puberty. *Acne* caused by masturbation.

CALC. CARB.—*Acne simplex* and *indurata* in girls of scrofulous constitution, and subject to uterine derangements.

LUPUS.

(*Synonyms*, **LUPUS NON EXEDENS**, **LUPUS EXEDENS**, **NOLI ME TANGERE**.)

Lupus is a chronic disease of the skin chiefly affecting young persons, and characterized by a cellular infiltration of the cutis, which does not tend to the formation of new tissue, but after a time leads to a contraction, or ulceration of the skin by a process of fatty degeneration and molecular destructions. Neumann gives two main varieties; namely, *lupus vulgaris*, and *lupus erythematoses*.

Lupus vulgaris embraces several varieties; namely, *lupus maculosus*, or *exfoliatus*, consisting of brownish red spots from the size of a pin's head to that of a silver five cent piece. This variety begins as a rounded, slightly elevated, shining, brown patch. On this, after a while desquamation takes place. The scales are thin and of a whitish color. The patch spreads slowly at the circumference, and heals in the middle leaving a white polished cicatrix. The scar is not the effect of ulceration but of interstitial absorption.

Pustular lupus begins with a brownish patch on which appear minute pustules. After a few days they rupture, and exude a liquid which dries into a yellowish white or brownish crust, closely adherent to the skin. On detaching the crust it is found to cover a ragged shallow ulcer, the floor of which is covered with pink granulations. The crust slowly extends by the formation of fresh pustules and crusts. Finally the crusts fall off, and leave a more marked cicatrix than is formed in the first variety.

Tubercular lupus.—This variety begins with the formation of several small rounded soft elevations, about the size of a pea, which are accompanied with more or less infiltration of the cellular tissue beneath and around them. The patch

of tubercles slowly extends by the formation of new ones around them.

Tubercular lupus may assume two forms. The first, lupus *non-exedens*, may terminate in slowly spreading superficial ulceration, or in cicatrization without ulceration; or second, it may result in the formation of deep, widely spreading ulcers; *lupus exedens*. Occasionally the latter variety terminates in epithelioma.

Lupus attacks most frequently the face, generally affecting the nose or cheek, but is observed on other parts of the body.

Causation.—The predisposing causes are, age, lymphatic temperament, scrofulosis. The exciting causes are local irritation and exposure to extremes of heat and cold.

Diagnosis.—Lupus may be mistaken for herpes circinatus, pityriasis, or for a syphilitic eruption. Careful attention to the salient points of these eruptions, will enable the practitioner to make a correct diagnosis.

Prognosis.—Lupus is an extremely chronic disease. Its duration is in many instances measured by the lifetime of the patient. It is seldom, except in the severest cases of lupus exedens, fatal to life.

Treatment.—The remedies which are best adopted to the treatment of lupus are, *Arsenicum album*, *Hydrocotyle asiatica*, *Thuja*.

ARSENICUM is indicated in the treatment of lupus maculosus, and lupus exfoliatus.

HYDROCOTYLE ASIATICA.—I have cured two cases of pustular lupus with this remedy. I used it internally, and as a lotion. I gave the second dec. dil. internally. The lotion was made of one part of the tincture, to ten parts of water. The lotion was applied three times a day. One year has elapsed since the last case was treated, and there are no signs of recurrence.

Local measures.—The galvanic cautery, cauterization with *Vienna paste*, *Nitrate of Silver*, *Chloride of Zinc*, *Chloride of Chromium*, *Carbolic acid*, are variously recommended as well as milder applications of *Oil of Cade*, *Vaseline*, *Tannin* and *Glycerine*, *Iodine*, *Alum* alone, or in combination with *Iodine*. Of caustic applications, a twenty-five per cent solution of *Carbolic acid* has been attended with most favorable results.

KELOID.

Keloid is of two varieties; namely, true or spontaneous keloid, and spurious or cicatricial keloid. The first develops from no known cause; the latter occurs in connection with the scars of burns or operations, or after small-pox, syphilis, etc.

True keloid begins as a small, hard, shining tubercle which slowly increases in size, until it develops into a tumor one or two inches in diameter by a quarter of an inch in height. The pain and tenderness are increased by pressure and the friction of the clothing. The skin covering the tumor is tense and shining, and of a whitish color. At the margins of the tumor and radiating from them into the adjoining cutis, are a number of cord-like prolongations or digitations which gradually become puckered by contraction.

Cicatricial keloid is generally multiple. It consists of elongated prominent elevations, which branch out in various directions as the disease extends. The whole resembles hypertrophied scars which follow a burn. The color is a deep red. This variety is not as persistent as the first; not infrequently disappearing spontaneously.

Diagnosis.—The diagnosis is usually determined without difficulty.

Prognosis.—Spontaneous keloid is a very intractable affection. Occasionally the tumor disappears by interstitial absorption. The cicatricial variety generally disappears spontaneously.

Location.—Keloid usually appears on the chest and neck.

Treatment.—Keloid is in general not amenable to treatment. Various local applications have been tried with the view of causing absorption of the tumors, but with no great success. Extirpation with caustics or the knife, has been almost invariably followed by recurrence of the disease. Remedies which show pathogenetic relations are few. *Graphites*, *Lycopodium*, and *Causticum*, are worthy of a trial.

MOLLUSCUM.

Molluscum is a disease of the sebaceous glands characterized by the accumulation of sebum in the glands, and their distension until they form wart-like protuberances from the size of a pea to that of a hazel nut, and occasionally even larger. The tumors may be either prominent, flattened, or pedunculated, the last being attached to the skin by a short pedicle. Some of the tumors are rounded and well filled out,

others are wrinkled and flabby. They contain inspissated sebaceous matter, which can be expressed by pressure through a small opening which communicates with the interior of the tumor.

The number of the tumors may be few or many. They are not painful neither do they at all affect the general health. They are more common on the chest and back than elsewhere, and in persons past middle life.

A variety of the disease called *molluscum contagiosum*, differs in some respects from the preceding. It is more common in the young than the old, and appears more frequently on the head, neck, and limbs, than on the trunk. The tumors contain a milky fluid which spurts out on pressure. If the tumor is opened it is found to contain a white brain-like mass enclosed in a thin membranous envelope. As the name implies, the disease is contagious; one case in a family being likely to be followed by others.

Molluscum is a disease of slow progress. The tubercles are two months or more in attaining the size of a pea. The disease terminate when left to itself either by suppuration or by sloughing.

Diagnosis.—The appearance of the tumors, the character of their contents, and the facility with which the contents can be pressed out readily determine their character.

Prognosis.—The disease does not affect the general health. Under suitable treatment it speedily disappears.

Treatment.—If the tumors are of considerable size they may be snipped off with a pair of scissors, or removed with a bistoury. If attached by a pedicle they may be removed either with the scissors or with a ligature. If small, the opening should be enlarged with a lancet, the contents pressed out and the sac touched with *Nitrate of Silver*.

VERRUCA.

(*Synonym, WARTS.*)

Warts are hypertrophied papillæ of the skin, embedded in a mass of thickened cuticle. They consist of small tumors from the size of a pin head to that of a large pea. The base of the tumor is in general somewhat narrower than the middle. The surface is rough and nodulated, and sometimes has a cleft appearance. Warts appear singly or in groups of considerable number. They appear in greater numbers, and more frequently on the face, neck, and hands, but may be

found on other parts of the body. Although they may appear at any age, yet they are by far more common in childhood.

Treatment.—Warts frequently spontaneously disappear, particularly during childhood. As they are not painful, and do not in any respect affect the general health, they are usually tolerated and at the most considered but an annoyance. If it is desirable to remove them, it may be done with the curved scissors, or by touching them with *Nitric* or *Muriatic acid*. Kafka asserts that warts can be cured by the persistent use of *Thuja*, *Calcarea carb.*, *Nitric acid*, or *Sepia*.

THUJA for hard warts covered with a layer of horny epidermis. It should be used both locally and internally. The third dec. dilution may be used internally, and the first dec. dilution locally.

NITRIC ACID may be used for soft warts.

SEPIA for large and hard warts.

CALCAREA for small and soft warts.

CHAPTER IX.

SCABIES — ERUPTIONS ATTENDING SCABIES — DIAGNOSIS — PROGNOSIS — TREATMENT. PHTHIRIASIS — TREATMENT. TINEA FAVOSA — CAUSATION — DIAGNOSIS — PROGNOSIS — TREATMENT. TINEA TONSURANS — TREATMENT. TINEA DECALVANS — PROGNOSIS — TREATMENT. TINEA VERSICOLOR — DIAGNOSIS — PROGNOSIS — TREATMENT. SYCOSIS — DIAGNOSIS — PROGNOSIS — TREATMENT.

ANIMAL AND VEGETABLE PARASITIC DISEASES OF THE SKIN.

THE only animal parasitic disease, of the skin calling for special mention are Scabies and Phthiriasis. The vegetable parasitic diseases are Tinea Favosa, Tinea Tonsurans, Tinea Decalvans, Sycosis, and Chloasma.

SCABIES.

(*Synonym, Itch.*)

Scabies is a disease caused by the presence in the skin, and the irritation caused by its burrowing and deposition of its eggs, of a parasite named the *acarus scabiei*. An artificial eczema is also set up by the irritation induced, and by the scratching of the patient. The female *acarus* is from one-fourth to one-fifth of a line in length, and from one-sixth to one-seventh of a line in breadth, resembling a tortoise in outline. It is visible to the naked eye. The male *acarus* is much smaller.

The female insect bores long canals in the skin, in which it deposits its eggs; the male inhabits short furrows or vesicles.

The mode by which scabies is communicated, is by the transference of the mites or ova from one person to another. The insect bores into, and through the epidermis, until it reaches the *rete mucosum* from which it derives its food. The female bores a canal beneath the epidermis, in which she deposits eggs as she advances, to the number of a dozen or more. About fourteen days afterwards the eggs develop into young acari, which break through the shell, emerge from the

canal, and appear on the surface. They in turn burrow into the skin and form new canals. The canals in which the acari dwell are called *cuniculi*. They are visible by means of a lens, as spiral or circular lines in which the acarus and the eggs are perceived as minute dots. With the point of a fine needle the insect may be extracted.

Around and beneath the furrows, papules, vesicles, and pustules are developed, which usually appear first on the hands between the fingers, the bends of the elbows, the lower part of the abdomen, and the upper part of the thighs. The face and scalp are seldom affected.

The itching, at first slight and only felt in the evening, gradually increases in severity, and is aggravated by warmth because the acari are moved to increased activity by heat.

Eruptions attending scabies.—A pruriginous eruption is the most common, consisting of minute papules, which being scratched exude from their tops minute drops of bloody serum, which dries into dark colored crusts. Prurigo is most commonly seen on the fore-arms, the abdomen, and front and inner side of the thighs.

Vesicular eruptions appear in the form of small rounded vesicles about the size of a pin's head, containing clear lymph, and surrounded by a red areola. The vesicles are most abundant between the fingers and on the front of the wrist.

Pustules are more infrequent. They are sparsely scattered over the surface of the skin, are of small size, and are opaque, and yellowish.

Scabies is most frequently met with among the poorer classes, and especially among those with whom cleanliness is not a virtue. It is also more common among children than among adults. This is probably owing to the greater fineness and delicacy of the skin of children, and the consequent greater ease of lodgment by the parasite.

Diagnosis.—As scabies is eminently contagious, it is important that a diagnosis be correctly determined. The disease is liable to be confounded with prurigo, eczema, and impetigo. In fact the last named cutaneous affections are often coincident with scabies. Careful observation will, however, prevent a wrong diagnosis. The characteristic points in determining the nature of the affection are; the discovery of the furrows made by the insect, or the capture of the acarus itself. The locality of the eruption will, also, aid materially in making a diagnosis. Scabies affects the inner side of the

fingers, the flexures of the elbows and knees, and does not affect the face and scalp.

Prognosis.—This is always favorable under suitable treatment.

Treatment.—The treatment of scabies has two objects in view; first, to destroy the *acarus* and its ova, and secondly, to cure the secondary affections which co-exist.

The first is accomplished by local applications which possess the power to kill the parasite; the second, by appropriate medication.

A large number of substances capable of destroying the *acarus* are recommended by writers on skin diseases. The most efficient are *Sulphur*, *Staphysagria*, and *Styrax*.

The first named will prove effective in a large majority of cases.

The method of application which has the sanction of the best authorities is as follows: The body should first be thoroughly washed with soft soap and warm water, and then be anointed with an ointment composed of one part of *Sulphur*, to eight parts of *Vaseline*, well mixed together. The whole body should be well rubbed with the ointment, but it is not necessary to use a large quantity. Children require less ointment, and less rubbing than adults. The ointment may be allowed to remain twelve hours, when it should be washed off with soap and hot water. The inunction should be repeated two or three times, or until the itching has ceased. The clothes that can bear washing should be thoroughly boiled, and other clothing be carefully ironed with a hot iron.

Liquid *Styrax* one part, *Lard* or *Vaseline* two parts, is also an effective local application.

Dcaisne advises the use of *Petroleum*, three frictions of which, in the twenty-four hours, he assert will cure scabies.

Internal medication.—Although by the external application of remedies the *acarus* is destroyed, yet the papular eczematous and pustular eruptions may remain, and require additional treatment. Scabies itself may undoubtedly be cured by internal medication alone, but the promptest results will be had from well directed local treatment.

The remedies are such as have already been given for the treatment of eczema, prurigo, etc.

The remedies especially indicated for scabies are *Sulphur*, *Psorinum*, *Causticum*, *Lycopodium*, and *Staphysagria*.

PHTHIRIASIS.

(*Synonyms*, MORBUS PEDICULARIS, LICE DISEASE.)

There are three varieties of lice which infest the human body:

First. The *pediculus pubis* or *crab-louse*, which is found at the roots of the hair of the pubes, the scrotum, the axilla, and sometimes in the beard and eye brows. The irritation of these insects give rise to a papular eczema, and slight but constant itching.

Second. The *pediculus capitis*, or *head-louse*, which infests exclusively the hair of the head. It is more abundant on the posterior portion. It often excites a severe eczema attended with intense itching.

Third. The *pediculus vestimenti* or *body-louse*, which inhabits the clothing. It is found in the folds and wrinkles of the clothing, and feeds upon those parts of the body which come most closely in contact with it, such as the neck, shoulders, and loins. The effects produced upon the skin vary with the duration of the presence of the parasites.

At first these are simple papules and excoriations, but if the irritations continue for a length of time there may be pustules, boils, and even abscesses.

Treatment.—The treatment is mainly local. To destroy the crab-louse *Mercurial ointment*, lotions of *Carbolic acid* (one part to eight of water), or *Chloroform* may be used.

A small quantity of *Mercurial ointment*, not exceeding in size a hazel nut may be well rubbed over the affected part once. Afterward the nits may be removed by lukewarm baths. A few drops of *Chloroform* may be dropped on cotton wool, and applied to the parts infested with the crab-louse, confining the vapor with a towel. The lice are killed and may be washed away.

Pedicula capitis may be destroyed by an ointment of *Oil of Staphysagria*, inunctions with *Petroleum* or a lotion of *Carbolic acid* (one part to eight). The nits may be removed by repeated washings with a weak solution of *Carbolic acid*.

As the *pedicula vestimenta* inhabit the clothing, all that is necessary is to thoroughly boil the clothing, and wash the body with strong soap and water.

The eruptions which are caused by the presence of the parasites, should if persistent be treated as in other like affections.

VEGETABLE PARASITIC DISEASES.

TINEA FAVOSA.

(*Synonyms*, FAVUS, PORRIGO FAVOSA, SCALL, HONEY-COMB RINGWORM.)

Favus, as the disease is commonly called, is characterized by the formation of pale or sulphur yellow crusts, having a concave surface. The crusts are lodged in depressions of the skin corresponding to their thickness and have a peculiar musty odor. Favus is caused by the presence in the skin and hair of the vegetable organism known as the *Achorion Schönleinii*.

The disease begins with itching and redness of the affected part, and with a branny desquamation of the epidermis. The hair loses its lustre and becomes dry and brittle. Next small yellow crusts make their appearance, traversed by a hair. These gradually increase in size and thickness, and become depressed in the center. With the progress of the disease the crusts form irregular masses, become friable at the surface and are of a whitish color, like old mortar.

If a favus cup be detached there is seen a smooth, shining, concave depression in the skin of a reddish color. This depression is evidently the result of pressure. If the disease lasts for some time, the crust when removed is succeeded by a thin cicatrix adhering firmly to the cranium.

The hair becomes dry, brittle, and splits easily. A greater portion falls off, and what remains becomes short and woolly. The disease commonly attacks the scalp, but may be found on any part of the skin furnished with hair.

Favus is confined to no period of life but generally attacks children between the ages of six and sixteen years. It is of very rare occurrence at any age.

Causation.—The predisposing causes are age, scrofulous diathesis, and lymphatic temperament. The exciting cause is the presence of the characteristic parasitic growth.

Diagnosis.—The diagnosis is determined by the color, peculiar shape, and musty odor of the crusts. The microscope reveals the presence of the *Achorion Schönleinii*.

Prognosis.—The prognosis is favorable, under suitable treatment. To effect a cure the parasite must be thoroughly extirpated. In some cases the disease runs a protracted course and requires much patience and persistence in its treatment.

Treatment.—Favus is a local disease and requires a treatment which will most effectually get rid of the cause; namely, the vegetable organisms which exist in the crusts and the hairs of the parts affected.

The treatment is mainly local. The crusts should be saturated with *Olive oil* or *Vaseline*, until they become loosened from the skin, which will generally occur in from twelve to twenty-four hours; or they may be softened by applications of lint soaked in dilute *Acetic acid*, and covered with oiled silk to prevent evaporation. After the crusts have been removed the head may be washed daily with dilute *Acetic acid*, and afterwards with soap and water. Extraction of the hairs of the affected part is recommended by some writers, and discountenanced by others. Walter recommends shaving the head after removing the crusts, and anointing the scalp twice daily with a preparation of one drachm of *Sulphuret of Potash*, to one pound of *Green soap*. Lotions of *Mercurius corrosivus* are successfully employed.

If the general health is impaired, efforts at restoration should be made, by appropriate medical and hygienic treatment.

I give the remedies which have cured obstinate cases of favus. The symptomatology of the disease is not found in the pathogenesis of any remedy, and clinical experience is the only guide in selection. *Arsenicum*, *Baryta carb.*, *Dulcamara*, *Oleander*, *Petroleum*, *Staphysagria*, *Sulphur*, *Viola tricolor*.

TINEA TONSURANS.

(*Synonyms*, HERPES TONSURANS, HERPES CIRCINATUS, RING-WORM, TINEA TRICOPHYTINA.)

Tinea tonsurans is a parasitic, cutaneous disease, characterized by the presence in the epidermis and hair of the vegetable parasite, the *trichophyton tonsurans*. The disease affects both the hairy parts of the body and the parts destitute of hair. The first variety is designated *herpes tonsurans*, the latter *herpes circinatus*.

Herpes tonsurans commences with itching and redness of some part of the scalp. The hair growing from it loses its luster, becomes brittle, and breaks off, or falls out. The scalp becomes covered with thin scales or crusts, which come off easily. Sometimes successive crops of vesicles or pustules appear on the affected parts, giving the disease a resemblance to eczema or impetigo. The disease may be limited to a

single patch, but usually there are several patches scattered over the scalp.

Herpes circinatus.—This variety appears on the hairless parts of the body. It appears first as small rosy patches slightly raised. Soon minute vesicles form, which speedily dry up into small thin scales. New vesicles continually form on the circumference while the center heals up. Thus we have an outer ring of vesicles, and within a ring of minute scales, giving to the disease its popular name of *ringworm*. The patches may attain a diameter of two or three inches, and are most frequent on the face, neck, fore-arms, and hands.

Treatment.—As in other parasitic diseases the remedies are such as will destroy the fungus. Herpes circinatus may generally be readily cured by washing the affected parts twice daily with dilute *Acetic acid*. Herpes tonsurans will frequently yield to the same treatment. If it fails a lotion of *Mercurius corrosivus*, one to two grains to the ounce of distilled water, will prove a very efficient parasiticide.

TINEA DECALVANS.

(*Synonyms*, ALOPECIA CIRCUMSCRIPTA, PORRIGO DECALVANS, VITILIGO CAPITIS.)

Tinea decalvans is a parasitic disease of the hairy parts of the skin, characterized by the hair falling out in circumscribed circular patches, leaving the bald spots polished and hard. The disease is usually confined to the scalp, though it may attack the beard, or hair on other parts of the body.

Tinea decalvans begins with some slight itching, confined to a limited spot. The hair loses its natural luster, becomes loose, and soon falls out leaving a small spot completely bald. The hair adjacent to the bald patch is as long and thick as on any part of the head. The hair that falls out is after a while replaced by a scanty growth of light colored fine hairs resembling the fibres of cotton.

There are several varieties of the disease; namely, *alopecia circumscripta* when the spots are of small size and well defined; *alopecia serpiginosa* when the bald places extend in an irregular manner, and *alopecia nummulata* when the patches are of large size, attaining a diameter of two inches or more.

Tinea decalvans is caused by the presence in the hair of the parasite *microsporon audouini*. The disease occurs oftener

in childhood than in adult life. It is rarely met with except as a concomitant of syphilis.

Prognosis.—The prognosis is generally favorable. There are some cases in which the skin of the bald spots becomes atrophied and depressed, and the sensibility diminished. When these conditions are present the baldness is very apt to become permanent.

Treatment.—The treatment is both local and constitutional. The local applications which have proved most effective, are lotions of dilute *Acetic acid* and *Tinc. cantharides*. The latter is composed of one part *Tinc. cantharidis* to thirty-two parts of dilute *Alcohol*, or of *Bay rum*. The lotion should be well rubbed into the scalp morning and evening. The principal remedies are *Phosphorus* and *Natrum mur.*

Alopecia means simply a falling out of the hair which may be partial or general. It usually begins at the vertex. The causes are old age, hereditary predisposition, protracted fevers, debility, and neuralgia.

The *Cantharis* lotion already mentioned is an excellent local remedy for falling out of the hair.

The remedies to be consulted are *Nat. mur.*, *Carbo. veg.*, *Kali carb.*, and *Phosporic acid*.

TINEA VERSICOLOR.

(*Synonyms*, CHLOASMA, LIVER SPOTS.)

Tinea versicolor consists in the appearance on the skin of brownish or tawny-yellow colored patches, slightly elevated above the surface, and attended with slight itching, and formation of small thin scales. It is caused by a parasitic vegetable organism called *microsporon furfur*.

Tinea versicolor rarely occurs in children. It is commonly met with in pregnant women, and in consumptives. It is seen most frequently on the neck, and upper part of the neck and the arms.

The spots of *tinea versicolor* are of various sizes. They may be small, rounded, and discrete, or they may coalesce and form an irregular shaped patch of considerable size. The surface of the patches is slightly raised above the surrounding skin, and presents a scurfy appearance. If the epidermis is detached the skin beneath presents a reddened appearance.

Diagnosis.—The diagnosis is determined by the characteristic appearance of the spots, and by the presence of the spores of the *microsporon furfur*.

Prognosis.—If the disease appears during pregnancy it generally disappears soon after delivery. It usually yields readily to appropriate treatment.

Treatment.—The treatment is local. To destroy the parasite is to remove the disease. The patient should be thoroughly washed with soft soap and warm water, and after being well dried, the discolored spots should be rubbed with a flesh brush, after which, a weak lotion of *Mercurius corrosivus*, or of dilute *Acetic acid*, should be applied. *Sulphur* baths are also efficient.

SYCOSIS.

(*Synonyms*, MENTAGRA, TINEA SYCOSIS, BARBER'S ITCH.)

Sycosis is a disease of the hairy part of the face, characterized by the formation at the roots of the hairs of pustules and nodules, and attended with considerable irritation and swelling of the skin and subcutaneous tissue. It is caused by the presence of the organism known as the *microsporon mentagraphytes*.

Sycosis commences with a sensation of heat, and tingling of the affected parts which soon become reddened, sore, and scurfy. In a short time pustules appear, hard at the base and purulent at the summit. The pustules are generally of a large size and appear in clusters or groups. The pustules of each group run into each other, forming a nodulated patch. The surface of the patch finally becomes raw and excoriated, and secretes a purulent fluid which dries into a dirty gray crust. If the crust is removed it reveals a moist, rough, red surface resembling the inside of a fig, whence the name of the disease. Considerable pain and discomfort attend the eruption, and if the number of pustules is large there may be enlargement, and sometimes suppuration of the submaxillary glands.

Diagnosis.—Sycosis may be confounded with impetigo and acne.

In impetigo the pustules are not as large as in sycosis, nor is there so much swelling and inflammation of the subcutaneous tissues.

Acne is not confined to the hairy parts of the face, but is more common on the forehead than in other localities. The pustules of acne are, besides, of much slower growth.

Prognosis.—The prognosis is in general favorable, though the disease may resist treatment for a long time.

Treatment.—The beard should be kept shaved, and in protracted cases the diseased hairs should be plucked out. Lotions of *Sulphur*, one part *Sulphur* to ten of water, or *Mercurius corrosivus*, one grain to the ounce of water, are effective local applications.

Tartar emetic third dec. trit., is the principal remedy indicated.

CHAPTER X.

FURUNCLES, ANTHRAX, OTALGIA, AND OTORRHŒA.

FURUNCLES—TREATMENT. ANTHRAX—CAUSATION—TREATMENT. OTALGIA—CAUSATION—TREATMENT. OTORRHŒA—CAUSATION—TREATMENT.

FURUNCLES.

(*Synonym*, BOILS.)

A furuncle or boil is a small, painful, circumscribed, hard tumor, caused by inflammation of the cutis and adjacent connective tissue. Suppuration slowly takes place, the skin ulcerates and a small quantity of pus escapes, and in a few days thereafter a slough of connective tissue (the core) is discharged.

Boils most frequently appear on the back of the neck, the nates, the back of the hand, on the thighs, and in the axilla. There may be only a single boil, or successive crops may make their appearance.

The most frequent cause is a depraved condition of the system induced by mal-nutrition, living in a vitiated atmosphere, venereal excesses, and mental anxiety and overwork. All ages are liable, but they affect the old and the young more frequently than those in the prime of life.

Treatment.—Locally, warm water dressings or poultices are beneficial. The lancet should not be used. Opening the boil does not shorten its course nor alleviate the pain, while it may result in erysipelas.

The remedies for furuncle, are *Apis*, *Belladonna*, *Hepar sulphur*, *Gelseminum*, *Silicia* and *Sulphur*.

To eradicate the tendency to boils the remedies are, *Calc. carb.*, *Lycopodium*, *Phosphorus*, and *Sulphur*.

HORDEOLUM.

(*Synonym, STYE.*)

A stye is a small boil appearing on the edge of the eyelid.

Treatment.—The treatment consists in the application of a lotion of one part *Tinc. of Pulsatilla*, to twenty parts of water, to the stye, and the administration of the third dec. dil. of the same remedy once in four hours.

ANTHRAX.

(*Synonym, CARBUNCLE.*)

Anthrax is distinguished from furuncle by the more extensive ulceration and destruction of the skin in consequence of the greater involvement of the subcutaneous tissues, and by the more marked constitutional disturbance.

Carbuncle begins with a hard, red, indurated spot exceedingly tender and painful. The swelling gradually increases in size, becomes hard from plastic infiltration, and the surrounding skin to a considerable distance is of a dark red or purplish color. The swelling is attended with severe tension and pain, and the pain is more severe in proportion as the region affected is sensitive, and abundantly supplied with nerves. There is accelerated pulse and increase of temperature, and sometimes chills at the beginning of suppuration. In a few days suppuration begins, in the subcutaneous tissue. The cutis ulcerates through and the pus, together with shreddy masses of dead connective tissue, is discharged through several openings in the skin, each opening corresponding to the core or mass of sloughing tissue.

The whole mass gradually sloughs away, leaving an ulcer of greater or less extent, which gradually heals by granulation, leaving a well marked, permanent cicatrix.

General symptoms.—For a few day before the appearance of the carbuncle, there is a general feeling of malaise, with languor and chilliness. As the inflammatory action develops, there is headache, fever, weak rapid pulse, irritability, and a thickly furred tongue. If the patient is old and feeble there will be great prostration and debility in proportion to the amount of local inflammation and suppuration.

The most frequent location of carbuncle is on the back of the neck, along the spine, and on the nates.

Causation.—Carbuncles appear most frequently in persons past the middle age, and in whom senile degeneration has

begun. They also affect persons recovering from continued or eruptive fevers, or during the course of diabetes, or Bright's disease. Sometimes they are due to some unhealthy condition of the atmosphere.

Prognosis.—The prognosis is in general favorable, but in the case of the aged and feeble, death may ensue, from the exhaustion consequent upon the excessive pain and profuse suppuration.

Treatment.—The local treatment consists in the free use of poultices until suppuration is established. The sloughs should be carefully removed when practicable. I have been in the habit of cutting off with curved scissors such portions as could readily be reached. Much is said for and against incisions. Some recommend subcutaneous crucial incisions, others crucial incisions through the integument and subcutaneous tissue. The judgment of the physician must guide him as to the advisability of the operation. Incisions often relieve the extreme tension and pain.

The strength of the patient should be supported by stimulating and easily digested food; as milk, beef tea, broths, etc. During granulation wine in moderate quantities may be given.

The remedies for carbuncle are: *Arsenicum*, *Apis*, *Carbo. veg.*, *Cinchona*, *Lachesis*, *Hepar Sulphur*, and *Silicia*.

ARSENICUM is indicated for large carbuncles with intense burning pains; feeling of prostration; purple color of the tumor and surrounding skin; quick, feeble pulse.

APIS.—If there is much œdema of the connective tissue, and a tendency to erysipelas.

CARBO. VEG. is indicated if there is a tendency to gangrene or extensive sloughing. It may also be applied locally as a poultice of powdered charcoal and brewer's yeast.

CINCHONA is indicated after suppuration has commenced if there is loss of appetite, debility, and night sweats.

HEPAR SULPHUR is sometimes useful to promote suppuration.

SILICIA is indicated if there is profuse suppuration and slow granulation.

OTALGIA.

(*Synonym*, EAR-ACHE.)

Otalgia or ear-ache is due to a variety of causes, of which are: impacted foreign bodies, accumulations of wax, diffuse and circumscribed inflammation of any portion of the audi-

tory canal, disease of the bones, neuralgia, furuncles, and suppurative inflammation. It is not my purpose to consider affections of the ear in detail, but to simply give some of the remedies for otalgia and otorrhœa, and the symptoms indicating their administration; referring the reader to special works on otology.

The remedies chiefly indicated for ear-ache are: *Aconite*, *Arnica*, *Belladonna*, *Chelidonium*, *Guaiacum*, *Kali bi.*, *Lachesis*, *Merc. sol.*, *Nat. carb.*, *Pulsatilla*, *Zincum*.

ACONITE.—Catarrhal otalgia from inflammation in consequence of taking cold; pain in right ear; great sensitiveness to noise; roaring in ears.

ARNICA.—Otalgia from blows or falls; bruised pain in the ears with great sensitiveness to loud sounds.

ARSENICUM.—Stitching pain in left meatus at night, from within, outwards; roaring in ears with every paroxysm of pain.

BELLADONNA.—Inflammatory swellings of the parotid glands with shooting pain in the ears; tearing pain at the external and internal ear; pulsating pain in the ear with intolerance of noise; shooting pain in the internal ears.

CHELIDONIUM.—Neuralgic pains in and around the ears.

GUAIACUM.—Violent otalgia with tearing in left ear.

KALI BI.—Violent stitches in left ear extending into the roof of the mouth, side of the head and neck; neck painful to the touch.

LACHESIS.—Pain in the ears with soreness of the throat; tearing pain extending from the zygomatic process into the ear.

MERCURIUS SOL.—Inflammation of internal and external ear with stinging, tearing pains.

NATRUM CARB.—Otalgia with sharp piercing stitches in the ears.

PULSATILLA.—Pulsatilla is especially indicated in otalgia from exposure to cold, and neuralgic ear-ache. In ear-ache of children it is very effective. A few doses of the sixth potency given at short intervals will speedily relieve the majority of cases. The indications are: external meatus red and swollen; darting, pulsating, burning pains, worse at night; violent pain in ear as from something forced outward; sensation as if the ears were stopped, with sound like distant roaring.

ZINCUM.—Frequent acute stitches in right ear near tympanum.

OTORRHŒA.

The causes of otorrhœa are catarrhal and purulent inflammation of the external and middle ear, colds, and affections of the throat. It also frequently occurs as a sequel of the exanthematous fevers, particularly scarlet fever. It not infrequently occurs during the course of scrofula.

The remedies chiefly indicated in otorrhœa are: *Aurum met.*, *Calc. carb.*, *Graphites*, *Hepar sulph.*, *Hydrastis*, *Lycopodium*, *Merc. sol.*, *Nitric acid*, *Pulsatilla*, and *Silicia*.

AURUM MET.—Obstinate fetid otorrhœa; caries of mastoid process; otorrhœa with loss of the ossicles of the ear, and perforation and ulceration of the tympanum.

CALC. CARB.—Bland sero-purulent discharge from the ears; polypus of the ear; moist eruptions behind the ears; singing, roaring, or crackling in the ears.

GRAPHITES, *bloody*, thin, *watery*, offensive, discharge from the ears; *gluey*, *sticky*, *purulent* discharge.

HEPAR SULPH.—Discharge of fetid pus from the ears; *Hepar* is suitable to offensive otorrhœa following scarlet fever.

HYDRASTIS.—Catarrhal otorrhœa, thick mucous discharge.

LYCOPODIUM.—Purulent ichorous discharge from the ears.

MERC. SOL.—Sanious offensive discharge from the ears.

NITRIC ACID.—Offensive purulent discharge from the ears. Otorrhœa after excessive use of *Mercury*.

PULSATILLA.—Bland nearly inoffensive discharge of purulent mucus from the ear.

SILICIA.—Swelling of the external ear, with thin discharge from inner ear; excoriating purulent discharge from the ears.

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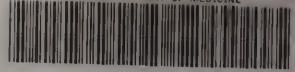
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